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MAINTENANCE MEMOS

10.1 MISSION

The mission of the Idaho Transportation Department (ITD) is to provide high quality, cost-effective transportation systems that are safe, reliable, and responsive for the economical and efficient movement of people and products. The mission of ITD's maintenance efforts is to provide the best possible resources and services to ITD, other agencies, and the public to keep Idaho's state highways and associated facilities safe, reliable, and efficient.

10.2 VISION

It is our vision that users of the state highway system will be served by one of the best maintained and operated transportation systems in the country. This system will meet those users' expectation of both service and cost. The maintenance staffs will work together as a team with our internal and external customers to bring this vision to reality.

10.3 MAINTENANCE DEFINITION

Maintenance of the roadway systems is the primary way in which ITD carries out its goal of providing a safe, efficient transportation system on a day-to-day basis. Roadway maintenance includes maintaining the traveled lanes, the shoulders, minor drainage structures and drainage surfaces, roadsides, signs, markings, lighting, bridges, safety hardware, and other appurtenances.

Preventative maintenance is a planned strategy of cost-effective treatments to an existing roadway system and its appurtenances that preserves the system, retards future deterioration, and maintains or improves the functional condition of the system.

Maintenance assumes a primary role in safeguarding the safety and efficiency of the roadway network by responding to the short-term maintenance needs on the roadway system, such as potholes, damaged guardrails, wash-outs, knocked down signs and signals, traffic accident cleanup, material and cargo spills, flood damage, landslide damage, rock falls, blizzards, wind storms, etc.

10.4 PURPOSE

The purpose of this manual is to provide a supplement to the [Maintenance Operations Procedures \(MOP\) Manual](#), giving basic direction to operating personnel for performing maintenance activities on the state highway system.

10.5 MAINTENANCE FACILITIES

Maintenance activities are conducted from the facilities at six district headquarters locations (including shops), maintenance foreman area stations, and satellite stations. The location of these facilities is shown in [Figure 10-4](#).

10.6 EMERGENCY ASSISTANCE AND ABANDONED VEHICLES

If a vehicle is hindering emergency, maintenance, or highway operations, you may offer emergency assistance. Use good judgment when making this decision. If you decide to lend assistance, have the motorist sign an “Emergency Assistance” form (ITD-1993) before moving the vehicle. Then move the vehicle so it no longer interferes with emergency, maintenance, or highway operation-no farther.

According to the state statute, 49-1301, the driver of any vehicle involved in an accident,.....resulting only in damage to a vehicle shall immediately stop(without obstructing traffic more than is necessary) the vehicle at scene.

In a non-injury accident, you or law enforcement may request the driver to move his/her vehicle to an area as to not obstruct traffic more than necessary.

Use the following procedures to remove abandoned vehicles from the highway:

1. Notify the state police or sheriff's office when any parked vehicle on state highway right-of-way, outside of the city limits, that ;
 - The vehicle poses an immediate threat to the life and safety of the traveling public,
 - If left in place, could cause a future traffic hazard,
 - Or does not impact traffic but has not been moved for more than 24 hours.
2. Make a diary record and submit the following information to the state police or sheriff's office:
 - The make, year, model, color, and license plate number of the vehicle.
 - The approximate location of the vehicle (by route and milepost).

When requested in writing, you may assist law enforcement officials in removing abandoned vehicles.

10.7 PUBLIC RELATIONS

You represent the Idaho Transportation Department and should treat the public with courtesy. When offering assistance or services, be sure that your actions will not

place you or the state under liability for damage. [Form ITD-1993](#), Emergency Assistance Release Form, is available for releasing you or the state of any liability.

10.8 DISASTER PROCEDURES

The responsibilities below are established in [Administrative Policy A-05-38](#).

10.8.1 Disaster Assistance

State law only authorizes department employees and equipment to work on State Systems. The Governor, however, can authorize assignments off State Systems by an Executive Order. In the case of a gubernatorial and/or Presidential declared disaster, ITD may be assigned emergency mitigation, preparedness, response, and recovery functions on or off State Systems.

After an emergency declaration has been made or a declaration is imminent, department employees that are requested to assist any state or local agency (ies) shall request Headquarters Maintenance to have Financial Services set up an individual work authorization code and accounts receivable number for each affected location by agency jurisdiction. Responding employees should use this work authority on all charges relating to assistance, to allow ITD to bill for reimbursement from the responsible agency(ies).

These procedures are intended to assist the State of Idaho Emergency Plan developed by the Bureau of Disaster Services. The State of Idaho Emergency Plan sets forth responsibilities for accomplishing disaster-related relief and recovery activities in support of local governments in Idaho.

10.8.2 Disaster Hazards

The Hazards listed below include all perceived hazards and list the responsibilities that may require ITD involvement.

Natural emergencies and disasters:

- Forest and Range Fires
- Floods
- Volcanic Eruptions
- Severe Storms
- Earthquakes
- Landslides

Man-made emergencies and disasters:

- Threats of National Security
- Terrorism Attack
- Hazardous Materials Accidents
- Forest and Range Fires

General ITD emergency responsibilities:

- Air Restriction
- Vehicle Registrations

- Airport Repair and Reconstruction
- Aerial Search and Rescue
- Civil Air Patrol Liaison
- Debris Clearance
- Traffic Control
- Implement Emergency Highway Traffic Regulation Plan
- Support state and local agencies for other public facilities
- Various Truck Permits
- Road Closure Management
- Road Repair and Reconstruction
- Bridge Repair and Reconstruction

When documenting time sheets or other records, the material, labor, equipment, and rentals must be charged to appropriate accounting codes, i.e., work authority, project, accounts receivable, activity codes, etc.

10.8.3 Emergency Relief (FHWA-ER) Program

This program only applies to the State and Local Federal-Aid System.

10.8.3.1 Definition

The Emergency Relief (FHWA-ER) Program is to provide assistance funds for repair of highway facilities severely damaged by a major catastrophe or natural disaster. See the "[Emergency Relief Manual](#)" published by the U.S. Department of Transportation Federal Highway Administration and ITD [Administrative Policy A-01-26](#).

10.8.3.2 Qualifications

The President and/or Governor must sign a state of disaster emergency proclamation. Upon receipt of the proclamation, ITD will request assistance from the FHWA. The Headquarters Maintenance Engineer can request Emergency Relief (ER) assistance when the state highway sustains serious damages of more than \$5,000 per site and exceeds \$700,000 accumulated damages.

10.8.3.3 Emergency Response Phase

The District Engineer will take action to:

1. Identify the damage as a state and local federal-aid route prior to committing resources.

2. Close the road only to protect the safety of the public or protect the highway from future damage (follow road closure and reporting procedures per [Section 330.2](#) of this manual).
3. Safely survey section for any stranded motorists.
4. Implement measures to limit future damage.
5. Identify and implement detour or bypass routing if necessary.
6. Coordinate traffic control with Idaho State Police and/or local law enforcement and local highway jurisdictions.
7. Refer to the Maintenance Operations Procedures, specifically activity codes M422 and M423 for ALL time sheet entries. Compile field reports from diaries.
8. Set up the communication protocol between the district, headquarters, and the Emergency Operations Center with points of contact.
9. Develop (a) an inventory of damaged locations, (b) an estimate of the repair and replacement costs, and (c) the amount of time the route will be closed. Then communicate this information to the Headquarters Maintenance Engineer.
10. Inform Public Affairs of activities and response situation reports.

In addition to the above, the following procedures apply to the Local Federal-Aid System:

11. Authorize any off system work after receiving a "Mission Request" authored by the Bureau of Disaster Services and signed by the Headquarters Maintenance Engineer or higher authority. If assistance cannot be given, contact the Headquarters Maintenance Engineer to coordinate assistance from other sources.
12. Coordinate with the Bureau of Disaster Services through the Headquarters Maintenance Engineer.
13. Coordinate with the local agency operating within the "Mission Request."
14. Any direct local requests for assistance must be passed on to the Bureau of Disaster Services through the Headquarters Maintenance Engineer.

The Headquarters Maintenance Engineer, acting as the department Emergency Management Coordinator, will take action to:

1. Inform Executive Management and other state agencies of activities and response situation reports.
2. Coordinate department efforts with FHWA and BDS in areas of staffing the EOC, mission request approval, assessment teams, and letters of request.

10.8.3.4 Emergency Repair Phase

The District Engineer will take action to:

1. Assure that the road is open with temporary repairs as soon as possible.
2. Assign personnel for FHWA Detailed Damage Inspection Report (DDIR) teams as needed, as requested by the Headquarters Maintenance Engineer.
3. Request the Headquarters Maintenance Engineer to obtain a project number.

The Headquarters Maintenance Engineer will take action to:

1. Report department activities to Executive Management, FHWA, and the Governor's Office through the Bureau of Disaster Services.
2. Obtain a work authorization code and accounts receivable number for each location by agency jurisdiction. This code should be used for any charges relating to that assistance, i.e., employee time, expense reports, equipment charges, and supply requests.

10.8.3.5 Permanent Repair Phase

Project design and construction will be integrated into the highway programming system and treated like all other projects. Some unique restrictions apply, such as limited time frames. Refer to the "[Emergency Relief Manual](#)" published by the U.S. Department of Transportation Federal Highway Administration.

10.8.4 Federal Emergency Management Agency (FEMA) Program

This program applies to the Local NON-Federal-Aid System and other Public Works requests.

10.8.4.1 Definition

The FEMA program is to provide funds to a state and its affected local governments impacted by a major catastrophe or significant disaster or emergency. The Federal Response Plan (FRP) is to facilitate the delivery of all types of federal response assistance to states to help them deal with the consequences of significant disasters. See the Federal Response Plan published by FEMA.

10.8.4.2 Qualifications

The FEMA disaster program starts when there is a Presidential Disaster Declaration. The county first declares a disaster situation and requests state assistance. The Governor then reviews the request and upon the signing a state of disaster emergency proclamation allows state resources to be used to assist that county. If the damages are catastrophic, a Presidential declaration can be enacted that brings to bear the capabilities of all federal departments and agencies to save lives, relieve suffering,

and protect property. The Presidential declaration is then coordinated through the disaster program administered by FEMA.

10.8.4.3 Emergency Response Phase

The District Engineer will take action to:

1. Identify the damage as a Local NON-Federal-Aid System and other Public Works route prior to committing resources.
2. Authorize any off system work, only after receiving a "Mission Request" authored by the Bureau of Disaster Services and signed by the Headquarters Maintenance Engineer or higher authority.
3. Coordinate with the Bureau of Disaster Services through the Headquarters Maintenance Engineer.

10.8.4.4 Emergency Repair Phase

The District Engineer will take action to supply personnel for Damage Survey Teams (DSR), if requested by the Headquarters Maintenance Engineer.

The Headquarters Maintenance Engineer will take action to:

1. Report department activities to the Governor's Office through the Bureau of Disaster Services.
2. Coordinate the "Mission Requests" from the Bureau of Disaster Services.
3. Supply personnel for the Disaster Field Office (DFO) as needed.
4. Perform coordination between the districts and ITD with BDS, FHWA, FEMA, and any other state and federal agencies.

10.8.4.5 Permanent Repair Phase

Local NON-Federal-Aid System and other Public Works projects are managed by others. Any ITD facility permanent repairs need to be coordinated through BDS.

10.8.5 Rental Rate Program

This program applies to construction equipment.

10.8.5.1 Definition

The Rental Rate Program is to provide the state and its affected local governments a standard for construction equipment ownership and operating expense. See the Manual for Equipment Rental Rates published by the Local Highway Technical Assistance Council (LHTAC).

10.8.5.2 Qualifications

LHTAC developed the Manual for Equipment Rental Rates to assist contractors and local agencies during disasters. These rates have been accepted by ITD, FHWA, Bureau of Disaster Services, and FEMA and can be used during the disaster response phase. Disaster assistance for equipment is limited to ownership and operating costs.

If we use department-owned equipment, we must use department rental rates published by the Headquarters Maintenance Section.

10.8.5.3 Emergency Response Phase

The District Engineer will take action to:

1. Apply the Equipment Rental Rates to any assistance from State and local agencies during the response phase.
2. Assist the state and local responders with the rental rate procedures outlined in the Manual for Equipment Rental Rates.

10.10 ALLOCATION AND MANAGEMENT OF THE HIGHWAY MAINTENANCE BUDGET**10.10.1 Highways (501) Operation Budget**

The Maintenance Engineer shall allocate funds to each District for highway maintenance operations, including purchase of highway maintenance materials and contracting maintenance services on the basis described below.

10.10.2 Allocation Formula

The maintenance allocation is calculated from the following maintenance budget categories and identified needs of each District and then converted to a percentage of the total dollar amount of maintenance funds that are available.

Anti-skid Materials (STKP)

The allocation for producing anti-skid stockpiles is based one-half on the District's percentage of the total statewide lane miles and one-half on usage and cost of the material over the last five years per District.

State and Anti-Icing Products

The allocation for salt and other deicing chemicals is based one-half on the District's percentage of the total statewide lane miles and one-half on usage and cost of the material over the last five years per District.

Asphalt and Plant Mix

The allocation for asphalt and plant mix materials is based one-half on the usage and

cost of these materials over the last five years. The other half is based on the District's percentage of the total statewide miles of pavement with a Crack Index of 2.5 or less, or with an average rut depth equal to or greater than 0.5 inches.

Highway Materials

The highway material category is for the purchase of miscellaneous highway materials, i.e., guardrail parts, sign posts, delineators, etc. The allocation for highway materials is based one-half on the usage and cost of these materials over the last five years. The other half is based on the District's percentage of the total statewide centerline miles of pavement.

Striping Paint and Beads

The allocation for paint and beads twenty-five percent (25%) on the District's percentage of the total lane miles, twenty-five percent (25%) on vehicle Miles Traveled (VMT) and fifty percent (50%) on usage and cost of the material over the last five years per District.

Maintenance Agreements

The allocation for highway labor, rest area maintenance, noxious weed control, and gopher control agreements is based one-half on usage and cost over the last five years per District. The other half will be based on the District's percentage of the total statewide centerline miles of pavement.

Contract Maintenance Activities (STM)

The allocation for the STM program is based one-half on the District's percentage of the total statewide lane miles and one-half on usage and cost of the material over the last five years per District. Contract maintenance activities can include brooming, bridge maintenance/repair, guardrail installation, mowing, herbicide application, ditching etc. generally pavement maintenance should be funded through the state or federal aid construction program; however, these projects can be funded in the STM program if the work is considered an emergency. The allocation for contract maintenance activities shall be based upon demonstrated and justified needs.

10.10.3 Responsibility for Budgeting and Planning

Each District has the flexibility in determining their specific maintenance priorities within the allocated funds. The District Engineer shall establish and maintain a one (1) year (minimum) District Highway Operations Maintenance plan and budget. The plan and budget shall include anticipated expenditures for each of the seven categories and include breakdowns for routine reactive work as well as location and cost information for planned or special projects in any of the categories. The plan and budget shall be submitted annually by April 1 of each year to the Maintenance Engineer who maintains the statewide computerized record.\

The District Engineer is encouraged to add or delete projects, or otherwise modify budget allocations as needed to meet immediate and long-term maintenance and operations requirements. Coordination of contract maintenance projects with federal and state construction projects is also encouraged.

The Maintenance engineer shall review the plan and budget in April and make recommendations to the Division of Highways Business Manager for allocation of each District's share of the Division of Highways annual legislated budget authority for maintenance and operations. Quarterly updates will be used to monitor the plan and budget.

The Division Highways Manager will use the District maintenance plan provided by the Maintenance and the budget sub-allocations provided by the District to monitor the District's total financial commitments and shall make recommendations to the Chief Engineer for establishing or modifying the Division's operations budget and related allocations.

SAFETY (50)**50.1 GENERAL**

An orange safety vest, shirt, or other orange garment (such as an orange windbreaker or coat) meeting with ITD approval shall be worn at all times when working on or near the roadway. An ITD-issued orange hard hat shall be worn in areas where there is a possible danger of head injury from impact, falling or flying objects, or electrical shock or in any area designated as a "Hard Hat Area" by the District Engineer, Supervisor, Contractor, or Supplier. The ITD-issued orange soft cap is recommended when the hard hat is not required.

There are work situations that require additional protective gear such as safety-toed boots, respirators, gloves, and eye protection or face shields. All employees are responsible for wearing the proper protective equipment.

All maintenance personnel shall be aware of the safety precautions noted in the [Safety/Loss Control Manual, Section 2.3](#), Exposure and Infection Control, and are required to meet all OSHA requirements and standards to fulfill the level of protection for the potential exposure. Necessary personal protective equipment will be provided at no cost by ITD and be readily accessible and available in appropriate sizes. If contact with potentially infectious materials can be reasonably anticipated, ITD will provide training, testing, information, and vaccinations as appropriate for the potential exposure.

Report the following to your supervisor:

- Unsafe conditions found in vehicles, equipment, shops, or garages that may jeopardize the safety of employees or the general public.
- Unsafe acts by employees that jeopardize the safety of other employees, the general public, or themselves.

Reference: [Employee Safety/Loss Control Manual](#).

50.2 INDUSTRIAL ACCIDENTS

Report all accidents, regardless of severity, to your immediate supervisor. Even a small accident may become serious if proper precautions are not taken. Reporting a small accident may help eliminate the cause, thus saving one of your fellow workers from a similar or more severe injury.

The supervisor shall immediately notify the District EEO/Safety/Training Coordinator of any accident. The Coordinator will provide assistance, if needed, in completing the appropriate forms.

50.3**VEHICLES**

The operator of any ITD vehicle is responsible for maintaining that vehicle in proper working condition and is responsible for the proper operation of the vehicle ([see Administrative Policy A-06-05 and A-06-06](#)). Seat belts shall be used when driving or riding in ITD vehicles equipped with them anytime the vehicle is in motion. Vehicles parked on the travelway for extended work activities shall have necessary warning signs in place and an overhead light in operation. Whenever possible, vehicles shall be parked or stopped clear of the roadway. It is the responsibility of the operator and supervisor to make sure that all backup alarms on equipment are maintained in good working condition. It is the operator's responsibility to ensure the area to the immediate rear of the vehicle is clear before operating in reverse.

Aggregate on the roadway constitutes a high incidence rate of ITD tort claims. Sanders and trucks shall be loaded below capacity to avoid rock spills. Sanders shall be equipped with rock deflection shields that are designed to prevent rock from striking vehicles in lanes occupied by the public.

If you are involved in an accident, do not make any statement concerning your responsibility for the accident. This statement will be made on ITD's Accident Report. When vehicular accidents involve ITD equipment, complete the appropriate accident reports correctly and promptly and send them to your district or headquarters office. Document the facts of an accident that could result in a tort liability claim against the state of Idaho. Items to note are weather and pavement conditions, visibility and sight distance, traffic control devices, road equipment within the roadway, and any first-aid assistance rendered. Snapshots or videotape are invaluable. If a citizen involved in such an incident requests information on filing a claim, advise the potential claimant that [Idaho Code](#) requires that all claims against the state be filed with the Secretary of State within 180 days. Offer assistance when you witness an accident, whether or not ITD equipment is involved.

51.0**TRAFFIC CONTROL**

Any work activity on or immediately adjacent to the roadway shall not commence until proper warning signs are in place. The extent of signing shall be appropriate, considering alignment, visibility, and traffic volume. All signs must meet the specifications outlined in the [Manual on Uniform Traffic Control Devices \(MUTCD\)](#) as adopted by the state. A written record shall be made of the traffic control installed, either as a diary entry or as a Traffic Control Plan. ([Administrative Policy A-12-04](#).)

Warning signs alert approaching motorists; therefore, erect warning signs facing oncoming traffic so that motorists can easily bring their vehicles to a stop before reaching the first piece of equipment or person working on the roadway. In most cases, place signs at least 155 m (500 feet) from the activity. Erect signs so that the bottom of the sign is at least 0.3 m (1 foot) above the shoulder. ([MUTCD Section 6B-3](#).)

If the activity is not completed at the end of the working day, temporary signs shall be removed or laid down a minimum of 5 m (15 feet) outside the travel lane. Remove signs placed to warn traffic of hazards as soon as the hazard is eliminated.

51.1 Exceptions to Signing

It is impractical to place warning signs for all operations; hence the "flashing amber light" should be used on vehicles involved.

Warning signs are sometimes impractical on patrol maintenance operations such as removing isolated boulders, straightening signs, etc.; however, every effort should be made to minimize the hazards to the public and ITD personnel in conducting these activities. Whenever possible, vehicles used in these operations should be parked clear of the travel way.

51.2 Delay of Vehicles

Avoid traffic delays through a maintenance operation that exceed ten minutes at any one time or where two or more interruptions total more than 15 minutes. In areas with high traffic volumes (ADT exceeds 3,000 vehicles per day on a two-lane facility or 6,000 vehicles per day on facility of four lanes or more), the delay may have to be reduced if traffic backup becomes intolerable. For this reason, detours should be planned for high volume roads and streets if possible. If traffic has not been detoured from a four-lane facility, keep at least one lane in each direction open to traffic. Stopping of interstate traffic should be avoided unless no other feasible alternative exists.

Schedule traffic-delaying maintenance operations and contracted utility adjustments to avoid morning and evening rush hours on high traffic volume highways that carry commuter traffic in major urban areas.

51.3 Traffic Control Plan

The [MUTCD](#) is the legal document that must be satisfied with any traffic control used. If there are any questions on the use of signs, signals, traffic markings, or barricades, the [MUTCD](#) (as adopted by the state) will be the final authority, unless ITD has more restrictive standards. Part VI of the MUTCD covers construction and maintenance signs. It establishes principles to be observed in the design, installation, and maintenance of traffic control devices and prescribes standards where possible. However, due to the variety of conditions encountered, no one standard sequence of signs or other control devices can be set up as an inflexible arrangement for all situations. Therefore, use the standard plans (those in the MUTCD) as a basic guideline. The [MUTCD](#) sets minimum requirements and at no time should any traffic control setup use less than the minimum recommended standards for traffic control devices. Review each operation to determine the appropriate traffic control plan. Document the type of plan used by noting the plan designation number and all modifications used. The District Traffic Engineer can provide assistance or answer questions related to traffic control plans.

51.4 Responsibility

The supervisor in charge of a maintenance operation is directly responsible for inspection of traffic control devices. If the supervisor must be absent from the operation for more than two hours, a member of the crew who has been certified in traffic control will be responsible for surveillance. ([Administrative Policy A-12-17.](#))

51.5 Utility Companies

When a utility company receives an approved permit to work in the right-of-way, the permit shall include specific requirements and restrictions regarding traffic control. A traffic control plan shall be submitted by the utility company when the District Engineer ascertains the work is extensive enough to warrant one. The Maintenance Foreman, in whose area the work is to be done, or his designee will review the traffic control operation of the company as necessary to ensure compliance with the terms of the permit.

51.6 Obscured Visibility

Any time that maintenance operations create dust and reduce visibility for motorists driving through work zones, appropriate traffic control measures must be in place to avoid increased accident potential. Generally, reduced visibility work zones will require employment of flagpersons or, for moving operations, a shadow vehicle equipped with proper signing and lights. Self-propelled and tow brooms that create dusty conditions will ordinarily require special traffic control measures under most situations. However, brooms of any kind, as well as other slow moving maintenance vehicles that are working in the travelway of high speed roadways [88 kph (55 mph) and over], require shadow vehicles as a minimum.

52.0 HAZARDOUS MATERIAL/INCIDENTS OR SPILLS

Hazardous materials require special procedures, as outlined in the following sections.

52.1 Emergency Response (General Procedures)

When you are called to respond to or come upon an accident involving hazardous materials:

- IDENTIFY THE HAZARDS. Look for placards, container labels, shipping papers and/or knowledgeable persons.

If a "Hazardous" placard is displayed, remain at a distance until you have identified the hazard.

DO NOT LEAVE YOUR RADIO/VEHICLE until you have communicated all relevant information to the dispatcher and have been released. Notify the dispatcher or district office with as much information as possible. (Refer to your [Emergency Response Guidebook](#) and the *Idaho State Communication Center's*

Hazardous Materials Incident Information Report.) The district will notify the district responders, management, and the EMS dispatcher at 1-800-632-8000. The EMS office will notify the Idaho State Police, Idaho Division of Environmental Quality, and other possible responders. It is VITAL that communications be maintained to organize an emergency response.

- **SECURE THE SCENE.** It is generally considered good practice to stop traffic at least until the contents can be further identified. A rule of thumb is to keep people 600 m (2,000 feet) from a "hazardous" accident until the material is identified and safety precautions are understood.

Refer to your *Emergency Response Guidebook* for isolation and evacuation distances for a specific material. Traffic control signing should conform to the *MUTCD manual* as adopted by the state. Traffic should not be stopped in low areas where gases and fumes that are heavier than air may accumulate. When selecting a site to stop traffic, consideration must be given to adequate sight distance and for a turnaround point should it be necessary. Reflective triangles should be used in lieu of flares for traffic control.

- **SAFE SITE ENTRY.** When approaching the scene of an accident involving any cargo (not only regulated hazardous materials):
 - Approach the incident cautiously from an upwind direction, if possible.
 - Move and keep people away from the incident scene. Refer to your *Emergency Response Guidebook* for distances.
 - Do not walk into or touch any spilled material.
 - Avoid inhaling fumes, smoke, and vapors even if no hazardous materials are involved.
 - Do not assume that gases or vapors are harmless because of the lack of smell. Odorless gases or vapors may be harmful.
 - When entry is necessary, use appropriate protective gear.
 - Assist people involved in the accident if you are sure that you are not subjecting yourself or others to life-threatening circumstances.
 - Limit first-aid and medical procedures to those who require immediate attention until professional help arrives. Refer to your *Emergency Response Guidebook* for suggested first-aid procedures.
 - Leave major firefighting to firefighters except under their direction. If flammable materials are involved, do not permit smoking or flares in the vicinity of the incident.

- Unless a qualified person is present and supervising the safe handling of the material or you know the chemical characteristics of the material and what should be done, do not handle or move the material.
- Do not permit people to handle debris or take souvenirs from the accident scene.
- At the accident scene, turn over control to the properly identified Incident Commander.
- For reimbursement purposes, record the hours and equipment time as well as the amount of material used. Document time and actions taken and any special instructions given.
- You may aid in any way possible if immediate evacuation of the area is necessary to protect human life. Major evacuations are coordinated with local and state emergency management organizations. The District Engineer is in charge.

52.2 Chemical Emergency Procedures

When chemicals are involved in an incident, the following emergency actions and precautions should also be taken:

- Keep well away from the wreckage, material, container, or other material involved. If a tank is heavily exposed to fire, evacuate the area and let the fire burn.
- The motor vehicle's ignition should be off. Vehicles in close proximity to a flammable or combustible spillage should not be started, as an ignition spark may start a fire.
- Trained rescue personnel should examine anyone who may have become contaminated with chemicals. They will also remove the contaminating agent as soon as possible.

52.3 Poison Emergency Procedures

When poisons are involved and a person may be poisoned, immediately call the Poison Information Center at 1-800-860-0620. Labels on poisons contain good information such as first-aid treatment, antidotes, directions for use, etc. The labels should be given to medical personnel.

52.4 Radioactive Materials Emergency Procedures

When incidents involve radioactive materials, the following emergency actions and precautions should also be taken:

- Segregate and detain persons who have had possible contact with the radioactive material for further examination. Emergency removal of the contaminating agent should be done as soon as possible by qualified person(s).

- DO NOT eat, drink, or smoke in the incident area. DO NOT use food or drinking water that may have been in contact with material from the incident area.
- DO NOT try to do too much prior to the arrival of radiation protection specialists and physicians.

52.5 General Spill Relief Procedures

Any observed spills of petroleum products or hazardous substances in a water source must be reported to the U.S. Environmental Protection Agency. ITD personnel shall contact the State Communication Center immediately and the dispatcher will contact all other necessary agencies. Quick action is sometimes necessary to alert downstream users.

CARE should be taken to prevent any hazardous substances from contaminating streams or sewers and powdered forms from being scattered by wind.

Attempt to contain the spills that are not health or life threatening, based on the information available, by:

- Damming the material with fine ashes, sand, straw, or earth.
- Trenching the spill liquid into a hole or depression.
- Diverting the spill away from streams or sewers.
- Catching the spilled material in containers.

Do not engage in clean-up activities unless directed by the District Engineer or higher authority. You may render emergency aid to contain a spill. For instance, place aggregate or any other handy material in a ditch to prevent stream or water pollution. Actions required to prevent injury and property damage may be taken.

When an unknown material is discovered, sampling must be done to determine what it is. The Idaho State Police Hazardous Materials Specialists have kits that can categorize materials into major hazard classes. If the material is considered to be immediately dangerous to life and health, the Idaho State Police can expedite a laboratory test. If the risks are low, cover and/or protect the material and request the Idaho State Police to collect a sample. Then send the sample to a lab in your area for testing. Upon coordination with the Idaho Division of Environmental Quality and the district office, properly dispose of the material.

DO NOT REMOVE material from the site without a supervisor's approval and without knowing what the material is or the proper disposal method.

52.6 Emergency Notification Response Roster

Contact	Location	Counties
District 1 Engineer 772-1200	Coeur d'Alene	Bonner, Boundary, Kootenai, Benewah, Shoshone

District 2 Engineer 799-5090	Lewiston	Latah, Clearwater, Lewis, Nez Perce, Idaho
District 3 Engineer 334-8300	Boise	Adams, Valley Ada, Washington, Payette, Boise, Elmore, Owyhee, Canyon, Gem
District 4 Engineer 886-7800	Shoshone	Camas, Blaine, Gooding, Lincoln, Minidoka, Jerome, Twin Falls, Cassia
District 5 Engineer 239-3300	Pocatello	Bannock, Bingham, Power, Oneida, Franklin, Caribou, Bear Lake
District 6 Engineer 745-7781	Rigby	Bonneville, Madison, Teton, Fremont, Jefferson, Clark, Custer, Lemhi, Butte

In case of an emergency situation of this type, contact the District Engineer or his representative in the area of the spill. The office numbers given can be dialed at any time including weekends and holidays.

Backup notification can be made to ITD Headquarters through one of the following:

- Maintenance Engineer 332-7893
- Assistant Maintenance Engineer 334-8417

52.7 Employee Responsibility

All employees shall attend the 4-hour Hazardous Material Training Session provided by ITD to become familiar with placarding, standard operating procedure, characteristics of chemicals, health hazards, and emergency procedures.

All employees who use hazardous materials to perform their job duties shall request a copy of the [Material Safety Data Sheet \(MSDS\)](#) when the product is supplied to them. They must read the MSDS, paying close attention to health hazard data, spill, or leak procedures and special protection information. Special procedures must be followed and suggested protective equipment used at all times. ITD will provide all needed safety equipment through normal supply procedures, on request.

52.8 In-House Emergency Spill Procedures

When hazardous material spills occur or are discovered in ITD yards or buildings, the following procedures should be followed:

- If the material or response method is unknown or you don't have proper training or equipment, get away and get help.

- Identify the material using MSDS, labels, or placards.
- Stop, control, and contain material; use the buddy system whenever possible.
- Properly dispose of the material, cleanup agent, and disposable protective gear.
- Report the spill and the actions taken to your supervisor and the ITD Hazardous Materials Coordinator.

52.9 District Headquarters Procedures

The district office will notify the foreman where the incident occurred, the District Maintenance or Regional Engineer, the ITD Headquarters Maintenance Engineer, and the Port of Entry Manager (if the incident involves a Port of Entry facility or employee), giving the information from the completed *Idaho State Communication Center's Hazardous Materials Incident Information Report*. The district office will submit copies to the ITD Headquarters Maintenance and Environmental Sections.

52.10 Interagency Hazardous Materials Liability Agreement

Any ITD section or district must administer an "Interagency Hazardous Materials Liability Agreement" when that section or district agrees to allow an outside state, county, or local agency to:

- Purchase hazardous materials from ITD.
- Use hazardous materials belonging to ITD.
- Borrow hazardous materials from ITD.
- Jointly use any hazardous materials with ITD.

53.0 PERSONAL SAFETY

Employees are responsible for their own safety and the safety of coworkers.

53.1 Safety Precautions

Even though all of the obvious safety precautions have been taken to protect employees on the job, be alert for unexpected and unforeseen threats to safety.

Employees are responsible for furnishing and wearing personal protective clothing that adequately meets the safety requirements for the general type of work being performed. Special types of protective clothing and devices may be recommended from time to time to fit the needs of particular jobs. On these occasions, the foreman requisitions sufficient items to supply the needs of the crew. When special items of equipment or clothing are furnished, employees must wear or use them when performing the operation.

Hard hats and safety vests will be worn in accordance with [ITD's safety policy](#).

Always wear face shields or goggles when there is danger of flying or falling objects getting into the eyes.

Wear safety shoes and hard hats where there is danger of dropping heavy or sharp objects or having them fall on you.

Wear heavy gloves when handling cutting edges, rocks, reinforcing steel, or other material with sharp or jagged edges.

In cases of broken wires, poles, or insulators on high-power transmission lines, take extreme care to avoid electrocution. Always use insulated tools or rubber gloves and be sure that the wire does not contact any worker or vehicle which might cause a ground.

When using hot or toxic materials, be sure the material does not spill on clothing or skin.

When mounting or dismounting from a vehicle, be sure your footing is secure; avoid jumping. Use hand holds and mount or dismount facing equipment.

Do not try to overlift. Obtain help if a big load must be lifted. Keep your back straight and do the lifting with your legs. When setting the load down, do not catch your fingers or toes. Also, place the load so that it will not fall and cause injury. Loads which obstruct the view of the carrier are too big and must be carried by more than one person.

Do not wear loose-fitting clothing when working around machinery. Key chains, watch chains, or loose shoelaces may cause accidents if caught in machinery. Do not wear rings when working on equipment.

Wear adequate respirators when exposed to dry cement or excessive dust, adjacent to drillers, dangerous gases may be present, near spray painters (including those exposed to spray in the striping machine), and on sandblasting operations.

Aprons of the proper type for the work involved will be worn by blacksmiths and welders (leather), battery handlers and dip-tank men (rubber), and any other employee who comes into direct contact with harmful materials.

A body harness and lanyards will be worn and used by tree climbers, painters, bridge workers, electricians, and any others in high-level work.

When using a pick, make sure there is clearance in all directions so that no person or object will be hit in the process of swinging. The pick can also glance off solid objects, inflicting serious and painful injury.

53.2 Drinking Water

Obtain drinking water only from approved sources; avoid the dangers of contamination. Furnish individual paper cups where possible. If disposable cups are unavailable, use individual drinking cups.

53.3 Overhead Utility Lines

Do not work where the possibility of contacting power lines exists. If work must be accomplished near a power source, request the power company de-energize the line.

A person shall not:

- Require any other person to perform any function or activity upon any land, building, highway, waterway, or other premises if at any time during the performance of such function or activity it is possible that the person or any part of any tool or material used by the person could move or be placed or brought closer to any high-voltage, overhead line than the following clearances:
 - For lines nominally rated at 50 kilovolts or less, 3.1 m (10 feet) of clearance.
 - For lines nominally rated at over 50 kilovolts, 3.1 m plus 1 cm (10 feet plus 0.4 inch) for each kilovolt over 50 kilovolts.
- Operate any mechanical or hoisting equipment or any load of such equipment, any part of which is capable of vertical, lateral, or swinging motion closer to any high-voltage, overhead lines than the clearances specified above.

53.4 Underground Utilities

Notify the companies involved when digging in the general area of underground utilities (electric, telephone, water, etc.).

Give utilities at least two (2) business days notice before starting work. State location and purpose for excavation and allow time for the company to locate its utility. Check encroachment permits for the type of utilities and placement.

An excavator shall use reasonable care to avoid damaging underground facilities. An excavator shall:

- Determine by hand digging, in the area 610 mm (24 inches) or less from the facilities, the precise, actual location of underground facilities which have been marked.
- Plan the excavation to avoid damage to, or minimize interference with, underground facilities in and near the excavation area.

- Provide such support for underground facilities in and near the construction area, including during backfill operations, as may be reasonably necessary for the protection of such facilities.

53.5 Poison Ivy, Oak, or Sumac

When working around poison ivy, oak, or sumac, be sure that all sleeves are rolled down and buttoned and that gloves are worn. After working in the vicinity of these poisonous weeds, wash yourself and your clothing thoroughly with strong soap and warm water. If infection occurs, follow first-aid measures and see a doctor.

53.6 Handling Explosives

Store explosives in bulletproof and fire-resistant buildings in accordance with local, state, and federal rules. All possible precautions must be taken in handling and storing explosives.

Place proper placards on all sides of vehicles transporting explosives. One person will be in charge who has full knowledge of the state and local ordinances governing the transportation of explosives.

Do not transport blasting caps in the same vehicle carrying explosives or in a radio-equipped vehicle if the cap wires have been unfolded or extended. Caps can be detonated at a distance of 1.8 m (6 feet) from the antenna.

Do not use transmitting equipment within 305 m (1,000 feet) of any part of a blasting operation, including cell phones and pagers – turn off so calls are not received.

Only those possessing full knowledge of the use of explosives are authorized to use them. Take all precautions to see that workmen and the public are fully protected when explosives are being used.

Be sure that proper signing, as specified in the [MUTCD](#) manual adopted by the state, is in place before using explosives.

54.0 SAFETY REGULATIONS – DRIVER RESPONSIBILITY

All persons operating an ITD-owned, -leased, or -rented motor vehicle must possess a valid driver's license and know and obey the state motor vehicle laws. Driving records, both private and departmental, must be acceptable to ITD.

54.1 Drivers and Equipment Operators

Check the following before accepting the assignment to operate your vehicle for the day:

- Make sure all tires are properly inflated and in roadworthy condition. Check the oil, water, and fuel. Turn off cellular phones and other transmitting equipment when fueling vehicles.
- Check the brakes, lights, horn, windshield wipers, and rearview mirror to see that they are in operating condition. See that all glass is intact and clean.
- Check the safety equipment before taking the truck or vehicle out. Ensure back-up alarms are working on all equipment with obstructed vision.
- Report shortages or defects of equipment to the foreman at once.

Safe operating procedures:

- Wear seat belts at all times.
- Govern speed primarily by the stopping distance required, but never faster than the posted speed limit.
- Maintain brakes in good working order.
- Never pass another vehicle at intersections or railroad crossings. Never pass where vision is cut off by hills, curves, or obstructions.
- Always maintain a safe distance from the vehicle ahead of you.
- Do not allow anyone to ride on the running board of equipment or to get out of the vehicle until it has come to a complete stop.
- Make certain that your vehicle is loaded properly and that the load is secured before moving. Never leave the tailgate of a truck down unless it is necessary to accommodate the load. As soon as the load is removed, fasten the tailgate shut.
- Load the vehicle so that no debris or aggregates will fall. Do not overload. You are responsible for paying any fine imposed upon you if guilty of overloading.
- Do not leave motor vehicles unattended unless the ignition is turned off and the brakes are effectively set. If you must get out for a short time, take the vehicle out of gear and set the emergency brake. If the vehicle is left on an incline, turn the wheels into the curb or bank and block them.
- When parking or leaving equipment, move it off the roadway and park it where it presents the least possible traffic hazard. When leaving equipment along the roadway overnight, park it as far from the travelway as possible.
- Do not make repairs or adjustments to or oil the equipment while it is in motion. Before any adjustment or repair is made, the equipment must be stopped and taken out of gear.

- When operating on the roadway surface or shoulders, carry on the operation so that the equipment moves in the same direction as the traffic whenever possible.
- Take special precautions against placing your equipment too close to the edges of cuts or fills.
- Night operations are especially dangerous. The traveling public does not expect to find work in progress at night. Therefore, take extra precautions to warn motorists that an operation is being conducted. Consult with the District Traffic Engineer on the extra precautions that should be used for night operations.
- Unless absolutely necessary, operate equipment only on the right side of the road and only when traffic is controlled. Equipment must be properly lighted and moved slowly.
- Do not permit lights to glare into the eyes of oncoming drivers. Turn off all auxiliary lights when other vehicles approach, allowing only the headlights, clearance lights, and warning lights to show.
- When working or traveling in low-visibility conditions such as fog or blowing snow or dust, efforts should be taken to make your equipment or operation as visible as possible, such as through the use of flashing and auxiliary lights.
- Lock the rear steering/articulation mechanism before transporting equipment with dual-type steering (such as rotary snow plows and articulated motor graders) under its own power.

54.2 Belt and Bucket Conveyors

Use enclosures or railings on power-driven conveyors having parts on which people might become caught; guards are required up to 2.1 m height from the ground.

Provide adequate sideboard protection where there is danger of material falling off the side of the belt or out of the buckets.

Level conveyors used at stockpiles and see that they are free from obstacles which might cause the conveyors to tip.

Install power-control devices at convenient places for stopping conveyor machinery.

54.3 Tractors and Bulldozers

When leaving or parking bulldozers, front-end loaders, motor patrols, and graders, drop the blade or bucket and lock the brakes.

Never wear steel- or iron-shod shoes, caulks, or heel plates when operating this equipment.

Where possible, make all turns with the driver on the uphill side. Never make turns when there might be danger of overturning.

Never crawl under a dozer blade or allow the man on the ground to couple any piece of equipment to your unit with his bare hands. Gloves should be worn.

54.4 Shovels, Cranes, Backhoes, and Drag Lines

Only regular operators or those specifically designated will operate a power shovel, crane, backhoe, or drag line. Hard hats are required to be worn by all workers around this equipment.

All crane and shovel cables must be inspected at regular intervals, but not less than once each month. All other parts must be inspected daily and have defective parts repaired at once.

Keep floors, steps, handholds, and ladders clear and clean at all times.

When positioning equipment, use mats or planking to distribute the load where the ground is soft. If the shovel or crane is placed on a bank over excavation, install shoring and bracing to prevent cave-ins. Watch for slides or cave-ins at all times. Remove overhanging trees and rocks before continuing operations. Be prepared to move the equipment whenever, in your judgment, a slide or cave-in seems imminent. Caution all employees against being caught between the cab and chassis and any stationary object or between the frame and raised dump body of trucks.

Make sure all machinery guards are in proper place before starting the shovel or crane. Know the locations of all employees who may be working in the vicinity of the unit. Locate and stay clear of power lines in the vicinity of the unit.

Never swing the bucket or boom over the cab of a truck or over workers. Do not allow anyone to walk under the bucket or boom of the unit.

Operators shall not leave the cab until the master clutch of the unit has been disengaged.

54.5 Parking

When it is necessary to park equipment on each side of the traveled roadway, separate the equipment by at least 92 m (300 feet). Otherwise, bring the vehicles to the same side of the road and head them in the proper direction. In all cases, move the vehicles as far from the centerline as possible, allowing traffic to move by with the least possible hazard. When you must confer on matters pertaining to your work, do so in a safe location away from traffic.

54.6 Backing

Avoid backing whenever possible. When parking at a curb, allow sufficient clearance to pull out without backing. Avoid turning into a place where it is necessary to back

into traffic. It is safer to drive around the block than to back into intersections or pedestrian crossings.

Try to have a helper to guide you whenever it is necessary to back. Ensure back-up alarms are working correctly.

Know the signals to be given in moving equipment backwards. Give the signals distinctly. If any question arises, stop the vehicle at once and straighten out the signals.

54.7 Hand Signals

Use hand signals (not voice) in all maneuvering operations. These signals are as follows:

- For movement of vehicles. The palm of the hand shall face the direction in which the vehicles shall move and the hand and forearm shall be swung from the elbow slowly in the direction the unit is to move.
- Stopping signal. The palm of the hand, with fingers up, shall face the driver and the hand and arm shall be held rigidly.
- To raise and lower the truck body. Extend the arm, with fist clenched and thumb pointing upward to signal raising the body. The same extended arm and clenched fist with the thumb pointing downward signifies lowering the body. Extend the arm with the palm of the hand held flat and facing the ground and slowly move the arm back and forth horizontally for stopping the body.

54.8 Breakdowns

In case of a breakdown, notify (through your supervisor, if possible) the nearest ITD repair shop.

If possible, move the equipment off the traveled highway, placing flares, reflectors, flags, and warnings to protect traffic on the roadway.

Stay with the equipment until help comes to remove the unit.

55.0 SAFETY REGULATIONS – FIELD EQUIPMENT

Responsibilities regarding slow-moving and stationary equipment as well as other field equipment are given in the following sections.

55.1 Warnings and Flags

ITD-approved red flags, a minimum size of 305 mm x 305 mm, should be displayed at the extreme outer edge of all grader moldboards.

Slow-moving equipment can be as dangerous as stationary equipment. For the safety of the traveling public, use warning signs, flagpersons, or a shadow vehicle with proper signing. Display a slow-moving vehicle emblem on all vehicles traveling less than 40 kph when equipment is operating within the highway right-of-way or on other adjacent roadways. Do not use pennant flags on maintenance trucks, pickups, panels, and sedans.

55.2 Lighting

Do not operate any vehicle between sundown and sunrise unless the vehicle is equipped with two headlamps, taillights, stop lamp, clearance lights, and reflectors, as prescribed by law.

Mount flashing amber lights on all maintenance vehicles so they are visible from the front and rear of the unit at all times. Flashing lights shall be mounted in accordance with [Section 795.0 of the Maintenance Manual](#).

55.3 Chains – Towing, Safety, and Tire

In all engine-powered vehicles, carry a towing chain, tow strap, or cable in good condition and of sufficient capacity to pull the vehicle without breaking. Use towing chains only to remove a vehicle from a hazardous location when the vehicle is obstructing traffic or endangering the traveling public. Move it only far enough to be parked in a place that does not obstruct traffic.

If it is absolutely necessary for one ITD vehicle to tow another, use a solid hitch-and-pintle hitch lock to prevent the towed vehicle from ramming the rear of the towing vehicle.

Use safety chains whenever any vehicle or trailer is transported from one location to another by an ITD vehicle.

55.4 Safety Equipment in Vehicles

All commercial vehicles are required to have emergency reflective triangles [six (6) fuses with 30-minute burning capacity or three (3) liquid-burning flares that burn 60 minutes minimum]. If needed, place the flares 31 m to the rear and front of the disabled vehicle and one immediately to the left.

Do NOT use flares if a hazardous or flammable material is present. Use triangles or chemical (fluorescent) light tubes.

Keep a first-aid kit in each vehicle. Inspect these kits at least every six months to ensure that the contents are in good condition. Kits are required to contain supplies appropriate to the work being done and/or needs of the crew. (No medicines are allowed.)

Keep a flashlight with every vehicle used at night. Flashlights and batteries can be acquired from district supply.

According to its use, each maintenance vehicle will be equipped with a shovel, a 0.6 m (24-inch) pry or pinch bar, and a fire extinguisher. These tools are for emergency use and are kept in the vehicle at all times. The operator is responsible for seeing that these items are in the unit and in safe operating condition. Report shortages of these items to the foreman at once. Check the fire extinguisher each month for load and leakage. An annual inspection is also required; all inspections must be noted on an attached tag. Small tools such as pliers, screwdrivers, crescent wrenches, etc., are furnished by the operator.

55.5 Transporting Equipment

When utilizing truck-trailer combination vehicles to transport equipment that exceeds the legal limits for width, length or weight, the transport vehicle is to be equipped with the necessary permits and safety equipment. Warning flags (12" x 12" in size and red in color) are required on all overwidth vehicles. The flags shall be fastened to each front and rear corner of the vehicle or load if it exceeds the legal width. "Oversize Load" signs shall be displayed on the front and rear of all loads exceeding legal width. The signs shall be 18 inches high by 7 feet wide. Letters shall be standard series C, black in color, and 10 inches tall with a stroke width of 1 5/8 inches on a yellow background.

56.0 SAFETY REGULATIONS – SHOP EQUIPMENT

Responsibilities regarding shop equipment are given in the following sections.

56.1 Welding Equipment

Only those employees well trained in welding and cutting operations are allowed to use welding equipment. Handle all apparatus in strict accordance with the manufacturer's instructions, local and state fire codes, and recognized safe practices. Welding cannot take place in buildings classified as hazardous occupancy.

Shield or screen welding, cutting, or burning operations to prevent injury to other employees or the public. No one will be allowed to watch the operations without the proper equipment for protection. Wear personal protective clothing and equipment as approved for this operation.

Store oxygen and acetylene cylinders at least 6.1 m apart or separate by a noncombustible barrier at least 1.5 m high with a fire rating of at least 1/2 hour [Idaho General Safety and Health Standards and 1 CFR 1910.252(A)(IV)(C)]. All cylinders must be secured.

Inspect all hoses, gauges, connections, tanks, and leads before use. Repair or replace defective equipment immediately. Make sure electric welding machines are grounded and electrode holders and connecting cables are insulated.

Do not weld in close proximity to explosives, flammable gases, or vapors. Also, do not weld on any tank or container which has held flammable liquids until the container is filled with water or decontaminated against toxic fumes and danger of exploding. Have approved fire extinguishers available at all welding, cutting, or burning operations.

If you leave your work unattended, close both oxygen and acetylene valves and drain all pressure from the regulator.

56.2 Small Tools

Use only the proper tool for the job and only tools in good condition. Tools are defective if they have burred and mushroomed heads, rough and loose handles, sprung and spread jaws, and dull cutting edges.

Make sure you are in the proper position to use tools such as axes, hatchets, sledge hammers, and picks. Have the proper stance and good footing and be sure you are clear of obstructions and fellow workers.

Employees with long hair who work around chains, drill presses, belts, or other machinery or road equipment must protect their hair from moving parts. Besides the danger of direct contact with moving parts that may occur when turning the head or leaning over, hair may be drawn into moving belts or rolls by static electricity. Employees must furnish and wear hair protection, such as nets, or cut their hair to eliminate the hazard. Hair protection does not replace the hard hat. (Hair protection should be used where hair is long enough that when the head is turned, the hair flips or falls in the opposite direction.)

Keep tools with a sharp edge in good condition. Do not fine dress them on an emery wheel; use a sandstone or oil stone. Always carry the cutting edge of a sharp tool away from your body. Never carry unguarded sharp-edge tools in your pocket. The force of the blow on a sharp-edge tool should always be away from you, never toward you. Hold a draw knife securely and away from you. Hold the material securely in a vise.

Use a file that has a good, substantial handle. Never strike a file with a hammer – pieces of the hardened steel are almost sure to fly.

Inspect chisels and punches for tempering and cracking. Keep heads well dressed and free from burrs. Always use safety goggles during chipping, cutting, or driving operations.

Inspect hammer handles often to make sure they are not split or loose. Keep the face of the hammer flat and redress it if it becomes round or chipped.

Use wrenches that are the proper type and size. It is unwise to use a piece of pipe as an extension to a wrench handle.

56.3 Bulletin Boards and Signs

Every maintenance building, shop, or garage shall have a bulletin board for posting safety material, posters, and other information pertinent to employees.

Locate bulletin boards in a prominent, well-lighted place where they are readily accessible to the greatest number of employees.

Display safety posters and articles for at least two weeks. The supervisor or lead-worker in charge will keep the board current and neat and will require all employees to read and initial all displayed safety information.

57.0 LIQUEFIED PETROLEUM GAS (LPG)

Storage, safety, and transportation of LPG are explained in the following sections.

57.1 LPG Storage Containers

Cylinders shall be designed, constructed, tested, and maintained in accordance with U.S. Department of Transportation (DOT) specifications and regulations. Other type pressure vessels and containers shall be designed, constructed, tested, and maintained in accordance with national recognized good practice.

Each cylinder, pressure vessel, or group of containers shall be marked with the name of the gas contained in accordance with national recognized practice.

57.2 LPG Storage and Use of Cylinders

All compressed gas cylinders in service or in storage shall be adequately secured to prevent falling or being knocked over.

Exception: Compressed gas cylinders in the process of examination, servicing, and refilling are exempt from this section.

57.3 Safety Regulations for LPG

All LPG handlers shall be certified in the safe use and storage of LPG per *OSHA Regulations #5102-1292*.

- Legible operating instructions shall be maintained at the operating location for any installation that requires any operation of equipment by the user.
- Smoking shall be prohibited in or around supply system enclosures. "NO SMOKING" signs shall be conspicuously displayed.
- LPG should not be stored in any building that contains pits or basements.

- All LPG cylinders shall be secured (i.e., chained) in an upright position at all times to minimize the possibility of movement, tipping over, or physical damage.
- Containers stored in buildings shall not be located near exits and stairways or in areas normally used or intended to be used for the safe egress of people.
- Empty containers that have been in LPG service shall be stored in the open. If stored inside, they are considered full containers and part of the 136.1 kg (300-pound) capacity explained in [Section 57.6](#).
- Storage locations shall be provided with at least one approved fire extinguisher having a minimum capacity of 9.1 kg (20-pound) dry chemical with a B-C rating.
- All cylinders shall be cleaned (with a wire brush) and repainted before taking to a contract vendor for re-certification.
- All cylinders require re-certification every 12 years (i.e., 12 years after the date of manufacture and every 12 years thereafter). Information concerning certification is stamped on the valve safety housing (top of tank). Re-certification will be performed by the contract vendor in respective areas. Dates and re-certification information (including initials) will be applied by the contract vendor.
- Valve outlets on tanks shall be equipped with an effective seal (POL plug). This plug shall be in place whenever the container is not connected for use or when being transported for refilling.

57.4 Transportation of LPG

When LPG is being transported, portable DOT containers must be marked and labeled in accordance with the following:

<i>Hazardous Materials Description and Proper Shipping Name</i>			
<i>Shipping Name</i>	<i>Hazard Class</i>	<i>ID No.</i>	<i>Label Required</i>
<i>Liquefied Petroleum Gas</i>	<i>Flammable Gas</i>	<i>UN1075</i>	<i>Flammable Gas</i>

The portable tank must be labeled on two opposing sides with the proper shipping name and identification number.

All shipping papers and required placarding must be in order when transporting any LPG.

57.5 LPG-Equipped Mobile Vehicles

Vehicles with LPG fuel systems mounted on them for purposes other than propulsion may be parked, serviced, or repaired inside buildings in accordance with the following:

- The fuel system shall be leak-free and the container(s) shall not be filled beyond specified fill limits.
- The container shutoff valve shall be closed except when fuel is required for testing or repair.
- The vehicle shall not be parked near sources of heat, open flames, or similar sources of ignition or near unventilated pits.
- The maximum amount that may be stored in the vehicle is 1,136 L (300 gallons). Anything in excess of 1,136 L (300 gallons) shall comply with LPG cargo vehicle requirements.

In addition to the above-listed requirements, since the use of the vehicles is seasonal, they should be parked outside and away from buildings during the off season.

Containers carried as part of the service equipment on highway mobile vehicles (distributor trucks, patching machines, tar pots, etc.) are not to be considered in the total storage capacity, PROVIDED such vehicles are stored in private garages and carry only one LPG container with an LPG capacity of 45.4 kg (100 pounds) or less per vehicle. Container valves shall be closed when not actually being used. When the mobile vehicle carries two or more containers, their capacity shall be included in the 136.1 kg (100-pound) maximum allowed in any single storage building.

57.6

Inside Storage of LPG

LPG shall not be stored in any building that has a basement or pit. A 56.8 L (15-gallon) limit should be adhered to for inside storage. Any additional containers in excess of this amount need to be stored outside, as specified in the *Uniform Fire Code, Article 82*. The area these containers are stored in should be free from combustible material, e.g., weeds, lumber, etc. The containers should be protected from overheating due to exposure from the sun. They should be protected from vehicular traffic and secured so they will not tip over. Containers should not be stored next to heat in the event of a fire within a building.

Quantities of LPG within shop/maintenance-type buildings, which are otherwise classified as H-4 occupancies, are limited by [UBC Table 9-A](#) to 56.8 L (15 gallons) per control area. A control area is a 1-hour, fire-resistive enclosure area that provides a 1-hour occupancy separation between the LPG storage and the major shop-use area. The number of control areas within a building cannot exceed four.

However, you can subdivide a shop into two distinct occupancies:

- H-4, repair shop
- H-2, LPG storage area

This type of mixed occupancy allows you to store more than the 56.8 L (15 gallons) within the H-2 building portion. In order to provide for this mixed-occupancy building, you need to have only a 1-hour occupancy separation between the gas storage area and shop area. However, your buildings in this mixed-use condition are limited in floor areas to that which is allowed by *UBC Table 5-C*, based on the floor area needed for each use and the types of building construction. If you were to permit 9.3 m² (100 square feet) of LPG storage area of 1-hour construction with not less than 25 percent of the H-2 (gas storage) perimeter wall located at exterior wall locations, you could exceed the 56.8 L (15-gallon) limit to 136.1 kg (300 pounds).

All H-4 shop buildings over 278.7 m² (3,000 square feet) are required by *UBC 3802(f)2* to be protected by automatic sprinkler protection. All H-2 occupancies must be protected by automatic sprinklers regardless of size.

ROADWAY (100)**110.0 BITUMINOUS PAVEMENTS**

Become familiar with instructions in traffic control, safety and convenience of traffic, and protection of workmen before beginning work on the traveled way.

It is recommended that the District Maintenance Engineer or Regional Engineer and the appropriate District Maintenance personnel establish and review annually the bituminous pavement maintenance needs for each section of roadway in the District. From this review a list of candidate projects can be established for both rehabilitation and maintenance type work. [Pavement Management System \(PMS\) reports](#) can provide useful information to assist in determining candidate projects.

It has been shown that the most cost effective pavement maintenance is preventive maintenance. Preventative maintenance is based on the concept that periodic inexpensive treatments are more economical than infrequent high cost treatments. Pavement preventative maintenance is defined as a program strategy intended to arrest light deterioration, retard progressive failures, and reduce the need for routine maintenance and service activities.

Pavement preventative maintenance treatments preserve, rather than improve, the structural capacity of the pavement structure. Preventative maintenance treatments are limited to pavements in sound structural condition. In addition, in order to be effective, preventative maintenance should be applied before pavements display significant amounts of environmental distress such as raveling, oxidation and block cracking.

Several types of treatments can be used for preventative maintenance:

- Crack Treatment
- Fog Seal and Rejuvenators
- Chip Seal
- Thin Hot Mix Overlay (Dense)
- Thin Hot Mix Overlay (Open-Graded)
- Slurry Seals
- Microsurfacing
- Scrub Seals
- Cold-in-Place Recycling
- Hot-in-Place Recycling
- Novechip

Information on the preventive maintenance and other routine maintenance techniques that are typically accomplished by state maintenance forces are presented in the following subsections. For information on the preventive maintenance techniques

that would typically be accomplished by contracting, refer to publications such as, Asphalt Institute Manual ES-11, ES-12, MS-16 or MS-19. Information can also be found in the [ITD Standard Specifications](#) or the Materials Manual.

110.1 Types of Pavement Distress

Several types of pavement distress may be encountered in streets or highways. Determine the reason for the distress and take action to correct the condition that caused the trouble. [Figure 100-1](#) shows the common types of asphalt pavement distress and candidate preventive maintenance treatments. Before pavement maintenance is performed, it is important to determine the cause(s) for each distressed area and to choose the right corrective action.

Some of the surface evidences of pavement distress are:

- Rutting
- Raveling
- Longitudinal or transverse cracks
- Alligator Cracks
- Potholes
- Bleeding and instability
- Depressions
- Edge breaking
- Frost heaving

Frequently, more than one pavement distress type is evident at the same time. One type of distress may progress to a more serious type or may progress to failure if corrective action is not taken. Refer to [Figure 100-1](#) for the most appropriate corrective treatment for the distress type(s) present.

110.2 Asphalt Materials

Asphalt is refined from crude oil and is a product of the petroleum industry. At ambient temperatures, it is solid or semi-solid. To be used in maintenance operations, it must be made liquid enough to coat aggregate. Asphalt can be liquefied in three different ways: by heating (asphalt cement); by dissolving in a petroleum solvent (cutback asphalt); by combination with water (asphalt emulsion). The three general type of asphalt are described in the following subsections. To determine the most appropriate asphalt to use for a particular maintenance operation, consult with the District Maintenance, Regional, or Materials Engineer. The asphalt supplier can also be of assistance in determining the best asphalt product to use for a particular project.

Figure 100-1
**FLEXIBLE PAVEMENT DISTRESSES AND CANDIDATE
 PREVENTIVE MAINTENANCE TREATMENTS**

Category of Distress	Type of Distress	Potential Actions
Cracking	Fatigue cracking	Not a candidate for preventive maintenance
	Block cracking (low to moderate)	Thin cold treatment, chip seal, thin hot mix overlay
	Edge cracking	Crack treatment
	Longitudinal cracking	Crack treatment
	Reflection cracking at joints	Crack treatment
	Transverse cracking	Crack treatment
Patching and Potholes	Patch/patch deterioration	Extensively patched pavements are not good candidates for preventive maintenance
	Pot holes	Pot hole pavements are not good candidates for preventive maintenance
Surface Defects	Rutting <ul style="list-style-type: none"> Densification of pavement Unstable asphalt concrete 	Fill ruts with micro-surfacing or strip chip seal, then thin cold treatment or chip seal Preventive maintenance cannot repair problem
	Shoving	Unstable pavement is not a candidate for preventive maintenance
	Bleeding	Sand seal, chip seal, micro-surfacing
	Polished aggregate	Thin cold treatment, chip seal, thin hot mix overlay
	Raveling	Fog seal, thin cold treatment, chip seal, thin hot mix overlay

NOTE: Load-associated fatigue cracking of flexible pavements indicates a lack of structural capacity. Fatigue cracking develops in the wheel path in progressive stages.

110.2.1 Asphalt Cement

Asphalt cement is the basic material of the asphalt family. It is a semisolid material used in making hot mix asphalt, and can also be used for surface treatments, seal coats, and crack filling. Various grading systems are used to specify asphalt cement by its hardness, viscosity, and desired performance characteristics. Additives and/or modifiers can be combined with asphalt cement to change its properties.

110.2.2 Cutback Asphalt

Asphalts that are liquefied by blending with petroleum solvents are referred to as "cutbacks." When they are spread on the road or pavement, the solvent evaporates, leaving the asphalt cement behind. These asphalts are made according to curing time: rapid-curing (RC), containing a naphtha-like solvent, and medium-curing (MC), with a solvent similar to kerosene are the two most common types. A third type, sometimes referred to as "road oil," is slow-curing (SC) and uses heavy fuel oil as the solvent.

Each type of cutback is available in various viscosity-controlled grades ranging from Grade 70, which contains the most solvent and is the most fluid, to Grade 3000, which contains the least solvent and is least fluid.

110.2.3 Asphalt Emulsion

Asphalt emulsions are liquid mixtures of asphalt cement, water, and an emulsifying agent. In an asphalt emulsion, minute globules of asphalt are suspended in water by using an emulsifying agent. Asphalt emulsions are graded according to the time it takes for them to "break" or come out of suspension. The three most common grades are rapid-setting (RS), medium-setting (MS), and Slow-setting (SS). Asphalt emulsion usually has a dark brown color when the asphalt is in suspension that becomes black when the asphalt and water separate.

Asphalt emulsions come in two types: anionic and cationic. In the anionic type, the globules of asphalt have a negative electrical charge. In the cationic type, the globules are positively charged. These differences in electrical charge improve the coating and bonding properties of the emulsion when used with aggregates having oppositely charged surfaces.

As in the cutback grades, the lower numbered grades are the most fluid (Grade 1 is more fluid than Grade 2). The small letter h indicates that the base asphalt is a somewhat harder grade. The letter C indicates a cationic emulsion. Other designations, such as HF for high float and P for polymer modified are also being used. Emulsion technology is rapidly changing, with new variations being developed continually, consult with the Materials Engineer or the asphalt supplier for detailed information on the best product to use in particular situations.

111.0 HAND-PATCH POTHOLES

Potholes are breaks in the surface with the hole extending into or through the base.

Repair these failures as soon as possible after their discovery, using one of the methods of repair listed below.

There are three common pothole patching techniques:

1. Throw-and-Roll
2. Semi-Permanent
3. Spray Injection

Each of these techniques has been shown to be effective under certain conditions. Depending on the particular conditions, one method will usually be more cost-effective than the other.

111.1 Throw-and-Roll

This procedure consists of the following steps:

- Place the material into a pothole (which may or may not be filled with water or debris).
- Compact the patch using truck tires.
- Verify that the compacted mix has some crown (between 3.2 mm and 6.4 mm).
- Move to the next pothole.
- Open the repair to traffic as soon as maintenance workers are clear.

The throw-and-roll method is very cost effective for winter patching operations. For the best results in winter patching operations always use a high quality winter patching mix.

111.2 Semi-Permanent

This procedure is much more labor intensive than the throw-and-roll. However, this increased labor cost can sometimes be offset with increases in performance of the patches by improving the underlying and surrounding support provided for the patches. The semi-permanent repair method is considered one of the best for repairing potholes, short of full-depth removal and replacement. This procedure includes the following steps:

- Remove water and debris from the pothole.

- Square up the sides of the patch area until vertical sides exist in reasonably sound pavement.
- Place the mix.
- Compact with small vibratory equipment such as a single drum vibratory roller or vibratory plate compactor.
- Open the repair to traffic as soon as maintenance workers and equipment are clear.

This repair procedure provides a sound area for patches to be compacted against, and results in very tightly compacted patches. However, it requires more workers and equipment and has a lower productivity rate than either the throw-and-roll or the spray-injection procedure.

111.3 Spray Injection

The spray-injection procedure consists of the following steps:

- Blow water and debris from the pothole.
- Spray a tack coat of binder on the sides and bottom of the pothole.
- Blow asphalt and aggregate into the pothole.
- Cover the patched area with a layer of aggregate (optional).
- Open the repair to traffic as soon as maintenance workers and equipment are clear.

This procedure requires no compaction after the cover aggregate has been placed. This procedure has been shown to be one of the most cost-effective patching methods because of the high productivity and the durability of the patches. This method can only be used when temperatures are above freezing because of the CRS-2 emulsion that is typically used.

112.0 DEEP PATCH AND BASE REPAIR

Deep patch and base repair consists of removal and replacement of areas of bituminous roadway surface, including removal and replacement of base material if required; then placing premix to correct severe alligator cracking, upheavals, pothole clusters, and base failures. The recommended procedure is:

- Break out and remove unsuitable material, including contaminated base, at least one foot outside perimeter of the cracked area.
- Square up the sides of the patch area until vertical sides exist in reasonably sound pavement.

- Apply light and uniform tack coat of asphalt emulsion.
- Place the mix in layers not exceeding 75 mm in depth.
- Compact each layer with vibratory compactor equipment such as a single drum vibratory roller or vibratory plate compactor.
- Open the repair to traffic as soon as maintenance workers and equipment are clear.

113.0 OVERLAYS

A maintenance overlay consists of reconditioning old surfaces, overlay patching, or shallow leveling with plant mix or cold mix to correct surface deficiencies. This activity includes overlays and leveling courses less than 20 mm average thickness regardless of length, overlays and leveling courses of greater in depth but less than 150 m continuous length, and scrub coats of any continuous length. The general procedure is:

- Mark area to be leveled.
- Broom loose material from surface.
- Apply light but uniform covering of asphalt emulsion tack material.
- Spread mix using a grader, paving machine, or Montana Rut Filler; mix should be spread in layers no greater than 75 mm in thickness.
- Hand rake to feather edges where needed.
- Roll each layer immediately.
- Broom area to remove loose material from roadway surface.

Every effort should be made to achieve a smooth riding surface when applying maintenance overlays. Asphalt paving machines should be used whenever possible, as they achieve the most consistent results. Graders or the Montana Rut Filler equipment can be used on low volume highways and in emergency situations. The smoothness of the ride for maintenance overlays and patching is primarily dependent on the skill of the operator, therefore always use experienced operators when performing this operation. Training of operators is critical and each district should have a yearly training session.

114.0 SPOT SEALING

Apply asphalt and aggregate (see Chip Seal) to small areas of bituminous surfaces to correct raveling, spalling, shallow surface failures, restore skid resistance, and prevent further deterioration of the surface.

115.0 SURFACE TREATMENTS

Apply one or more layers of asphalt and aggregate to continuous sections of bituminous surfaces to seal cracks; restore skid resistance; correct flushing or bleeding; or rejuvenate dry, weathered surfaces, thereby preventing further deterioration of the surface.

115.1 Types of Surface Treatments

Fog Seal: A fog seal is a light application of 50/50 diluted asphalt emulsion shot at no more than 0.1 gal/sq. yd. without an aggregate cover. The emulsion is usually diluted with an equal amount of water and sprayed at a rate 0.45 to 0.70 liter/sq. meter of diluted material. Exact quantities depend on the surface texture, degree of dryness and amount of cracking of the pavement being fog sealed. Fog seals are used to:

- Renew asphalt surfaces.
- Seal small cracks and surface voids.
- Address raveling of chips and open-graded surfaces on high-volume roads.
- Maintain and delineate shoulders in high-volume roads.

Recommended on all blade patches.

Over-application must be avoided as this may result in asphalt pick-up by vehicles or reduced pavement friction. If over-application occurs, it is desirable to reduce traffic speed and to apply a light sand coat.

Sand Seal: A sand seal is an application of asphalt followed by a sand cover aggregate. The sand or stone screenings should be 6.35 mm sieve size or smaller. The binder used for sand seals is usually a rapid setting or a medium setting emulsion. A sand seal is essentially the same as chip seal except finer aggregates are used as cover. Sand seals are used to:

- Improve microtexture and provide better surface friction.
- Retard aging of asphalt surfaces.
- Seal small cracks and surface voids.
- Address raveling of chip seals and open-graded surfaces.

Chip Seal: A chip seal consists of liquid asphalt covered with an approved cover coat material. Asphalt may be rapid- or medium-curing liquid asphalt or emulsion. Chip seals typically provide 4 to 7 years of good performance on highways with as much as 5,000 vehicles per day. Studies have shown that the timing of chip seal applications relative to the existing pavement condition is critical. Chip seals are used to:

- Provide better surface friction.
- Retard aging of asphalt surfaces.

- Seal small cracks and surface voids.

Slurry Seal: A slurry seal is a mixture of asphalt emulsion, well-graded fine aggregate (sand) and mineral filler mixed with water to produce slurry consistency. Slurry seals are used to:

- Seal minor surface cracks and voids.
- Retarding surface raveling.
- Improve surface friction characteristics.

Microsurfacing: Microsurfacing can be viewed as a polymer-modified cold paving slurry seal system. Microsurfacing cures faster and develops strength faster and can be placed in a thicker layer than the slurry seal. Microsurfacing can be used for texturing, sealing and rut filling. Microsurfacing can provide a long-term solution for ruts if the pavement is stable. Other uses of microsurfacing include:

- Application on oxidized, raveled and flushed surfaces.
- Crack and void filling.
- Minor leveling.
- As an interlayer.
- Bridge decks.

115.2 Procedure

Seal coats for overlays or new plantmix pavements are recommended to be placed on the pavement surface 3 or 4 years after completion. After initial application, maintenance seal coats should be done on approximately a seven-year cycle. However, as the pavement ages, each pavement should be evaluated and the most cost effective maintenance or rehabilitation strategies should be used based on the distresses present.

For more information on seal coating see [Section 403 of the ITD Standard Specifications](#), the Materials Manual, and [Administrative Policy A-05-01](#).

117.0 CRACK SEALING

Crack sealing of flexible pavements is a routine maintenance activity that basically involves cleaning and filling cracks with a liquid sealant. Crack sealing can prolong the life of flexible pavements by preventing or reducing intrusion of water and incompressible materials from entering the pavement and base.

To be cost-effective, crack sealing must be done at the proper time in a pavements life. Typically if a pavement has low to moderate density of cracks and the cracks show moderate to no deterioration at the edges, crack sealing is an appropriate maintenance procedure. However, if the cracks are very wide (greater than 30 mm) then an alternative maintenance strategy should be used, such as partial depth patching or spot patching.

It is important to understand the difference between crack filling and crack sealing. Crack sealing is the placement of specialized materials either above or into working cracks to prevent the intrusion of water and incompressible materials into the crack. Crack filling is the placement of materials into nonworking cracks to substantially reduce infiltration of water and to preserve the pavement. Working cracks refers to horizontal and/or vertical crack movements greater than 3 mm throughout a year.

Small to medium width cracks (6 to 25 mm) are the best candidates for crack sealing. Cracks smaller than 6 mm may be better handled by some kind of surface treatment, such as a seal coat or slurry seal. Cracks larger than 25 mm and that are spalling may need to be repaired by patching.

117.1 Procedure

If needed, rout out the crack to the sealant manufacture's specifications for width to depth ratio. Clean the crack using high-pressure air, sandblasting, wire brushing or hot air blasting. This is a key step to crack sealing. If the crack is not thoroughly cleaned the sealant will not adhere to the sides. Hot air blasting is the preferred method because it helps dry the crack and if the sealing operation closely follows the hot air drying, the heated crack surface helps the sealant adhere to the crack. After cleaning the crack, sealant should be applied from bottom to the top of the crack to prevent air bubbles from forming and creating a weak spot in the sealant. Fill the crack to at or near the top, use a squeegee to remove any excess sealant on the pavement surface. Excess sealant on the pavement surface is to be avoided. Finally, use a blotter such as toilet paper or sand placed directly on top of the sealant to prevent tracking.

117.2 Materials

Refer to sealant manufacture's recommendations for the proper material to use based on climatic and temperature ranges in your area.

118.0 ENVIRONMENTAL PROTECTION

Years ago diesel was the product used to clean and pretreat equipment when working with bituminous pavement. With environmental regulations now in place, we are no longer allowed to dump or spill diesel and asphalt. The following policy is the best known management practice when asphalt cleaning is necessary.

118.1 Asphalt Equipment Procedure

Pretreat all grader blades, truck beds, tires, asphalt distributors, or other equipment and tools with vegetable oil or other approved proprietary product as a release agent for asphalt. You can use hand sprayers to apply vegetable oil.

118.1.1 Truck Beds

Spray the beds down with vegetable oil after each load using just a thin stream at the top of the bed, it will run down and coat the entire side, then put one coat on the floor. Spray once as needed.

At the end of the day there may be some mix on the tail gate, spray a thin bead around the top; the next day the mix should remain soft and come off with the first load.

118.1.2 Grader Blades

Spray vegetable oil on the grader blades once a day or as needed.

118.1.3 Asphalt Distributor

Spray it down with the vegetable oil during the day, then clean it with a citrus based cleaner in the evening only as needed.

118.1.4 Asphalt Distributor Bar

The asphalt distributor bar may need to be coated with vegetable oil after every spray.

118.1.5 Hand Tools

Using vegetable oil on tools such as rakes and shovels works well, the mix does not build up on them, and what does remain can be easily tapped off.

118.2 Asphalt Distributor Bar Cleaning

When cleaning the distributor bar, always catch any diesel or asphalt. You may want to use a tray and recycle the diesel or asphalt into the tank, then reverse the pump to clean out the piping and snivies or reverse the pump to suck all the asphalt and diesel back into the tank. Consult the asphalt distributor's operations manual for the correct method to reverse suction.

131.0 REPAIR CONCRETE PAVEMENTS

Replace broken areas or utility cuts with concrete so that the patch will be equal in strength and riding quality, and similar in appearance to the remainder of the pavement.

Patching should be done as soon as possible. If delayed, the broken area may become enlarged by action of traffic. Temporary measures, such as covering the broken areas with bituminous mixture, do little toward restoring the pavement strength. However, temporary measures should be considered in emergency cases.

A "broken area" refers to portions of the pavement which are broken into pieces too small to distribute the load to the subgrade without imposing unit pressures greater than the safe carrying capacity of the subgrade. Under this condition, the broken portions of the slab become displaced and their surface is no longer in the plane of the rest of the pavement.

Concrete patches are easily placed. If the patch is properly done, it becomes an integral part of the pavement which is restored to its full serviceability.

131.1 Design of Patch (Size and Shape)

The patch's shape, size, and position in the pavement with respect to joints and edges have a direct relation to its ability to stand up under traffic. When laying out the patch, consider the existing pavement condition and the shape and dimensions which will provide the best performance.

Design details for patches are classified into five types according to the position of the patch in the pavement:

- Full-width patch, involving all lanes of the pavement. These patches are usually constructed one lane at a time.
- Single-lane patch, involving the width of a single traffic lane.
- Exterior-edge patch. This is a patch less than a full lane in width, an edge of which lies along the outside edge of the pavement.
- Interior-edge patch. This is a patch less than one full lane in width, one edge of which lies along an interior edge or joint of the pavement. This edge may be unprotected (butt construction joint with neither dowels nor tongue and groove to provide load transference). If the joint is the center joint of a pavement built in two-lane widths, it will be protected with load transference in the form of aggregate interlock or a deformed metal plate.
- Interior patches, with all edges at least two feet distance from any longitudinal or transverse edge or joint. These patches are not the result of breakage of the pavement in service but are due to cuts made to gain access to a utility under the slab.

Figures 100-2 and 100-3 illustrate these five types of patches and their location in the slab with respect to edges and joints. When the patch is at an expansion joint, the minimum length of patch is 6 feet. If there is a breakage at both sides of the expansion joint, the total minimum length becomes 12 feet unless the patch extends the full width of the pavement. In this case, the expansion joint may be omitted in the patch except at location next to bridges or other structures. Align expansion joints in single-lane patches with the joint in adjacent lanes.

Patches are usually rectangular in shape, as shown in the drawing, but triangular or diamond-shaped patches have been used with success to repair broken slab corners which are not on the exterior edge of the pavement. The sides of the triangle or diamond make angles with the longitudinal edge of the slab which must be not less than 30 deg.

131.1.1 Undercut Method of Load Transfer

To transfer the live load from the existing slab to the newly placed repair, an undercut is required where no dowel bars exist. A small excavation under the existing slab will allow for 6 inches of additional concrete depth and 6 inches of intrusion under the slab. This shall be filled with new concrete when the new slab is poured (see Figure 100-4). This method is used when no dowel bars exist to transfer loads from slab to slab.

131.2 Pavement Thickness

It is practical to patch if the existing pavement is generally adequate for the loads that it is to carry. Otherwise, consider reconstruction or resurfacing instead.

Remove and replace local unsatisfactory subgrade before placement of patches. Use the patch thickness shown in the following table:

RECOMMENDED THICKNESS OF PATCHES

Design of Existing Pavement	Depth of Patch (D in Fig. 100-3)
A. Thickened-edge slab	<ol style="list-style-type: none"> 1. $D=1.3$ times center thickness of original slab on all patches involving unprotected corners. 2. $D=1.2$ times center thickness of original slab on all patches not involving unprotected corners.
B. Uniform-thickness slab with dowels or other load transfer devices at expansion joints.	<ol style="list-style-type: none"> 1. $D=1.1$ times original slab thickness for all patches involving unprotected corners. 2. D=same depth as existing slab for all patches not involving unprotected corners.
C. Uniform-thickness slab without load transfer devices at expansion joints.	<ol style="list-style-type: none"> 1. D=same depth as existing slabs for all patches.

Figure 100-2

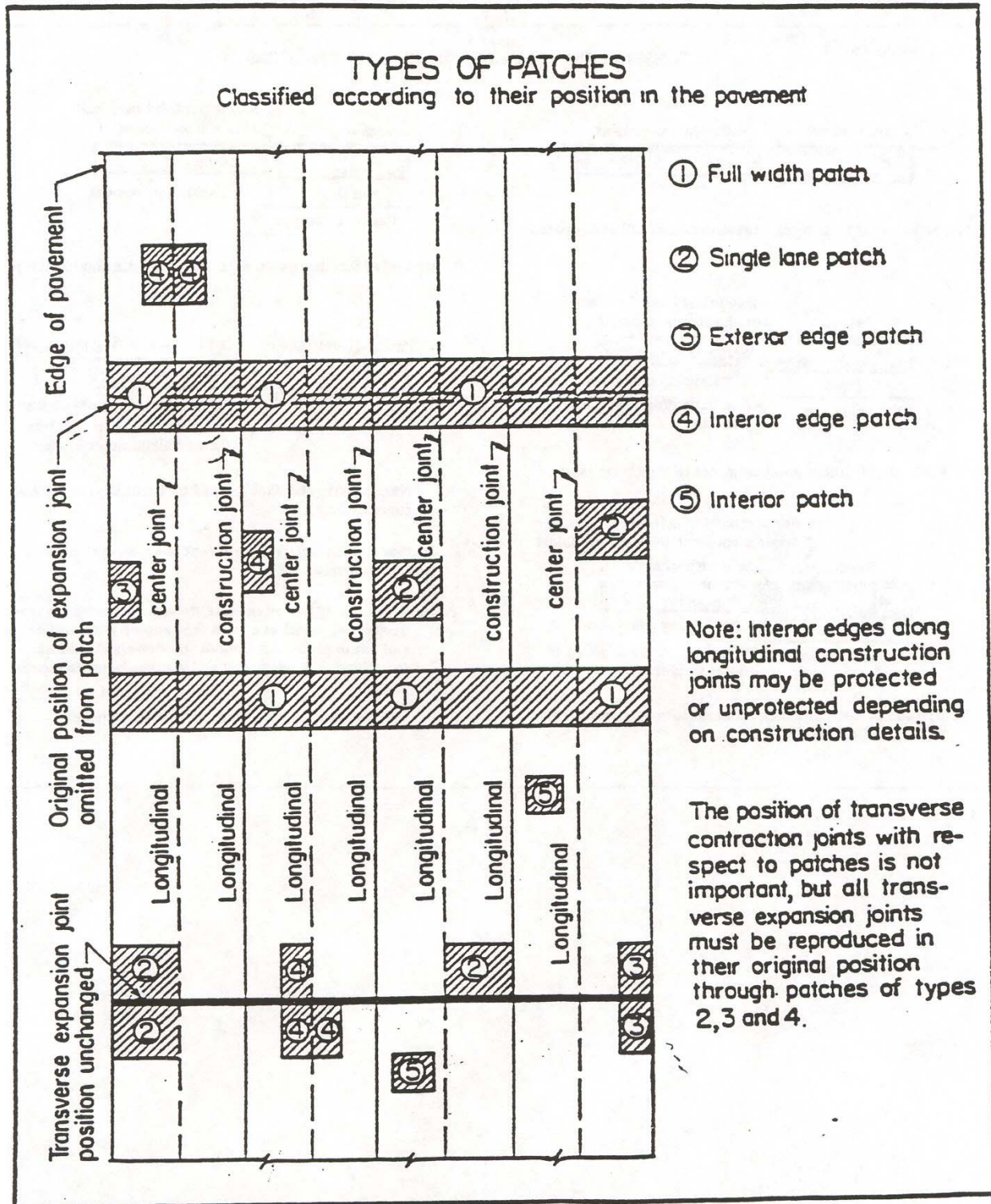
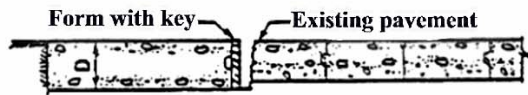
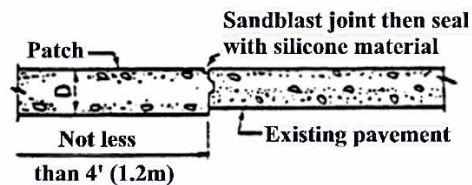


Figure 100-3

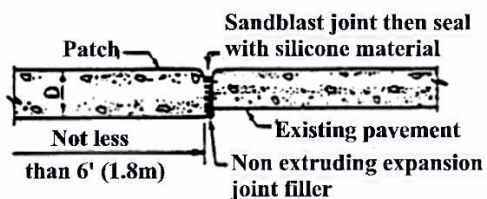
CONSTRUCTION DETAILS FOR CONCRETE PATCHES



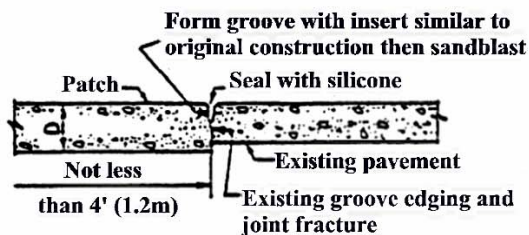
A. Method of lane-at-a-time construction of full width patch



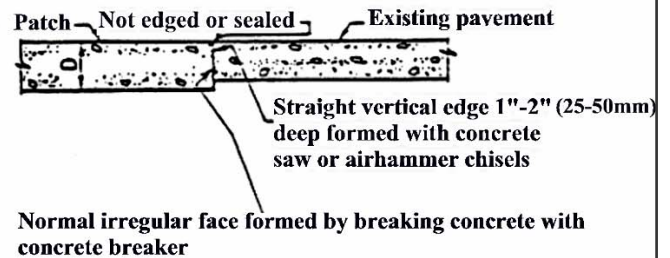
D. Method of forming patch adjacent to longitudinal keyed joint



B. Method of forming patch adjacent to expansion joint



C. Method of forming patch adjacent to contraction joint or longitudinal dummy groove

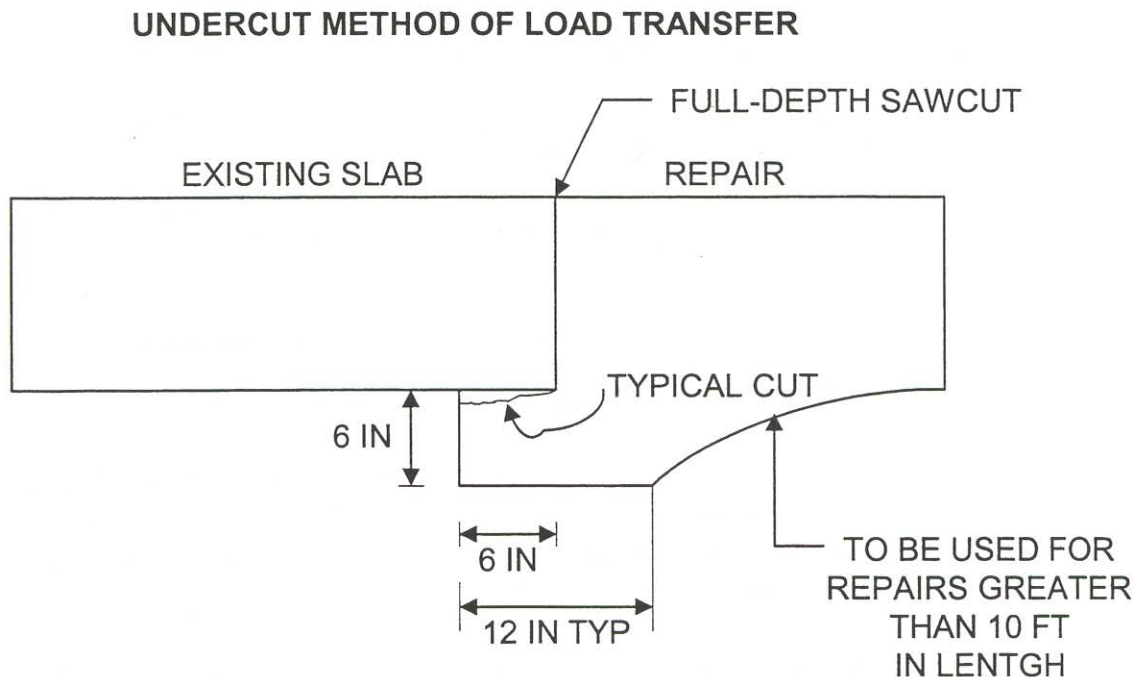


E. Method of forming patch adjacent to existing concrete where no joint is located

Note: Wherever tiebar or tiebolts, dowels or other load transfer devices are found in a joint the exposed ends will be cleaned and left in place. All smooth slip dowels should be straightened, if necessary and greased prior to placing the patch.

Interior patches have no minimum dimensions

Figure 100-4



131.3 Joints

Various types of joints are explained in the following subsections.

131.3.1 Longitudinal Center Joints

Whether or not longitudinal center joints were used in the original construction, use them in full-width patches in street and highway pavements, since it is usually necessary to build the patch one lane at a time to accommodate traffic. In constructing the first half-width, break out enough of the second lane to permit the placement of forms. Keep the new pavement in the first lane completely separated from the broken pavement in the second lane to avoid traffic vibration of the fresh concrete. If the patch is constructed in two-lane widths, use a weakened-type of longitudinal center joint. This may be a dummy groove formed at the time of construction or cut with a concrete saw after the concrete has hardened.

In single-lane patches or interior edge patches, thoroughly clean the face of the joint and place the new concrete against it. Projecting tiebars are left in place unless the pavement in the next lane is also being replaced. Finish the edge of the patch next to

the longitudinal joint with a concrete edger and leave a groove to permit sealing after completion of the patch.

131.3.2 Transverse Expansion Joints

Unless the patch extends the full pavement width, any expansion joint that existed in the original pavement must be replaced in the patch at its original position. As stated before, dowels are not required. They may be used, but the recommended pavement thickness will result in a pavement that is adequate without them.

When the patch extends the full width of the pavement, do not replace an expansion joint unless it is apparent that additional expansion space is needed. If a joint appears to be needed, place it at any location within the patch more than 1.8 m (6 feet) from each end of the patch. It is not necessary to place it at the same location as the original joint.

The joint is sealed as described in [Section 132](#), Joint Filling.

131.3.3 Transverse Contraction Joints

Install contraction joints to form slab lengths of 3.6 to 5.5 m (12 to 18 feet) in all full-width patches of 5.5 m (18 feet) or more in length. For other than full-width patches, the location and spacing of contraction joints should agree with jointing arrangement in the original slab.

Use dummy-groove contraction joints of a depth equal to one-fourth the depth of the patch. The groove may be formed during construction or may be cut with a concrete saw immediately after the concrete has hardened sufficiently to permit this operation.

Contraction joints may be built without dowels and should be sealed as described in [Section 132](#), Joint Filling.

131.4 Preparing for the Patch

The procedure is explained in the following subsections.

131.4.1 Subgrade Support Adjacent to Patch

If breakage has been caused by pumping action, it may be desirable to improve the subgrade support for the pavement adjacent to the areas to be patched before proceeding with the repair. This may be done by pumping a slurry of cement and sand under the pavement. Another method is to use URATEK expanding foam (see [Section 133.0](#), Slab Jacking).

131.4.2 Removing Old Pavement

Before removing the old concrete, outline the area to be patched for either replacement or surface cuts on the pavement. Make a cut with a concrete saw along all edges not bounded by joints. This cut should be 38 to 51 mm (1 1/2 to 2 inches)

deep to ensure a straight vertical edge for the upper portion of the patch. This will prevent overhang and irregular feathered edges of the concrete patch, which often spall under traffic.

After all edges have been cut, break the area to be patched into small pieces and remove them. Usually, the edges of the patch below the saw cut are broken by using pneumatic chisels or drills. Leave the broken edge below the saw cut fairly rough and irregular, but in approximately vertical planes so that it will provide aggregate interlock between the patch and the existing pavement. This acts as load transference, restricts differential movement under loads and prevent faulting. Avoid acute angles in the patches and the old pavement. Except for the triangle- or diamond-shaped patch, edges of the patch are usually parallel or at right angles to the centerline and edges of the original construction.

Hand methods for removing the old pavement are sometimes used where the patches are few in number and small in area, or widely separated.

If patching large areas within a relatively small radius, use power equipment to save money and time. Break the portion of slab to be removed into one-man blocks. Load the blocks of concrete into trucks or pile them along the edge of the pavement for removal.

Saw cut and lift out slabs with equipment in as large of sections as possible. Before placing new concrete, clean the edge of the old slab to be sure it is free from dust, dirt, or portions of concrete which have been broken loose and have not been removed. When the new concrete is placed, paint the edge of the old slab with a thin concrete latex bonder (moose milk).

131.4.3 Preparation of Subgrade

Frequently, pavement breakage is caused by a local condition of the subgrade, such as frost boils or frost heave, seepage from a water-bearing layer of soil, or a number of other conditions.

Correct these conditions before patching to avoid repeated breakup.

Correct poor drainage by installing suitable drains to intercept the water or lower the water table as required. Remove unsatisfactory subgrade material and replace with new compacted material in layers of proper thickness. If the existing subgrade is susceptible to pumping and if the pavement shows evidence of pumping, consider using a geo-grid fabric under the base course under the patch. For large patches, granular subbases approximately 1 foot (305 mm) thick and approximately 1 foot (305 mm) wider than the pavement may be used. Carefully compact the subbases with hand or pneumatic tools. Provide drainage if the subbase material is open graded, but not if it is dense-graded material. In all cases, whether the subgrade material is new or old, the soil should be damp, but not wet, before the new concrete is placed.

131.5 Placing of Concrete

The procedure is explained in the following subsections.

131.5.1 Concrete Materials and Proportions

Select good quality patching and curing materials to comply with specifications for concrete pavement as outlined in Idaho's Standard Spec. Book. A dry, low slump concrete gives the best results in patching. The mixture should contain only enough moisture to allow finishing. Never add water to the surface during finishing operations.

When using large amounts of concrete (greater than 5 cubic yards), check with the District Materials Engineer for assistance with mix designs and source approvals.

To open the patch earlier to traffic, a mixture that will give a higher early strength than mixtures used in regular construction work can be used. In traffic emergencies, they may be opened earlier if possible damage to an occasional patch is justifiable.

131.5.2 High Early-Strength Concrete

There are several methods of producing high early-strength concrete, including:

- Use of low water-cement ratios. Practically, low water-cement ratios mean richer mixtures in order to obtain the required workability. However, concrete for patches should be mixed as dry as can be properly placed, compacted and finished.
- Use of high early-strength Portland cement (Types III or IIIA).
- Use of a plasticizer or water reducer chemical additive.

131.5.3 Use of Air-Entrained Concrete

Patching is frequently necessary in areas where severe frost action prevails or where salts or granular materials impregnated with salts are used to remove ice from the pavement. Unless air-entrained concrete is used, the surface of a patch may scale under these severe exposure conditions. Air-entrained concrete is highly resistant to the destructive action of frost and salt applications, providing the materials (sand, coarse aggregate and water) used in the mix are of good quality and the concrete is properly mixed, placed and cured.

Air-entrained concrete does not add to the cost or complicate patching operations. The same cement content per unit volume is maintained for air-entrained concrete as is used with normal paving mixtures, and the mixing time remains the same. The fresh air-entrained concrete has a fatty appearance, is cohesive and somewhat sticky, but may be handled, screeded and finished with ease. The workability of the concrete is much better than that of nonair-entrained mixes. In many cases, this improved workability allows the water content to be reduced without impairing the

placeability. As a result, there is little free water on the surface for lubrication during finishing operations. The absence of free water is more critical during hot, dry or windy weather. This condition is not objectionable as it permits finishing almost immediately after screeding. Early protection and curing are thus made possible at the critical time when the concrete is in need of this protection.

Always use air-entrained concrete for patching concrete pavements that are subjected to severe frost action or where the repeated application of sodium chloride, calcium chloride, magnesium chloride, or granular materials impregnated with these salts is anticipated. Air entrainment can be produced by using air-entrained Portland cement complying with ASTM specification C175, or by incorporating air-entraining agents which comply with ASTM specification C233 at the mixer. Several air-entraining agents are available which comply with this specification.

If there are any questions on mix designs or admixtures, please contact the District Materials or Headquarters Pavement Engineer for assistance.

131.5.4 Mixing and Placing

Concrete will be more uniformly and accurately proportioned if materials for each batch (except water) are measured by weight. Water is measured by volume or weight. Small portable scales are available for use where a central proportioning plant is not used. Check and calibrate the equipment. To obtain the correct net amount of water to add per sack of cement, reduce the amount by the amount of free water in the aggregate or increase it by the amount of water that will be absorbed by dry aggregates.

On small, isolated patches the measurement of materials by volume is permitted. In this case, carefully calibrate the measuring hoppers allowing for bulking of fine aggregate due to varying moisture content. In proportioning by volume, a 94 lb. (42.6 kg) sack of cement is considered as 1 cu. ft. (0.03 m³).

Except for small isolated patches, machine-mix the concrete for at least one minute. Ready-mixed concrete may be used if it can be placed and finished without adding more water. Whenever possible, ready-mix concrete should be used to ensure high quality results.

Before the concrete is placed, dampen the edge of the old concrete and the subgrade, and paint with a concrete latex bonder; then fill the space with concrete. Concrete shrinks slightly as it hardens, therefore, minimize shrinking by using a vibrator or tamping the concrete after placement.

When concrete is first placed, it is struck-off and vibrated or tamped at an elevation slightly higher than the intended finished surface of the patch. Use mechanical vibrating equipment especially at the edges of the patch, to consolidate the freshly placed concrete. Scream the concrete surface, then check with a straightedge to give the same contour as the old pavement.

131.5.5 Finishing

When patches are finished, they should have (as nearly as possible) the same surface texture as that of the adjacent old concrete. Finish the patch with a canvass, a wood-float, a burlap drag or a broom to correspond with existing pavement. Do not add water to the surface to aid in finishing. Working of the surface should be kept to a minimum.

All transverse and longitudinal joints and outside edges of the pavement which are part of the patch should be edged with an edging tool having a radius of 3 mm (1/8 inch). Do not edge a patch where it joins a broken edge of the old pavement.

131.5.6 Curing

The size and scattered locations of concrete patches makes it inconvenient to use a curing method involving frequent moisture throughout the curing period.

Other acceptable curing materials requiring little or no water are:

- Curing membranes directly on the newly finished patch to completely cover all exposed surfaces. Place impervious paper as soon as the concrete is hard enough so that it will not be marred. Thoroughly wet the pavement before placing the paper. No further application of water is required. Curing should be continued until the patch is ready to be opened to traffic. Care should be taken to ensure the paper is not blown off by wind or traffic.
- Spraying on curing membranes that are applied directly on the finished patch immediately after the surface treatment is completed.

132.0 JOINT FILLING

Sealing joints and cracks prevent surface water seepage through the pavement openings, excludes foreign matter, and preserves the original joint filler, if any, which tends to deteriorate and become inert if not protected. Keep moisture in the subgrade below the free water stage by all feasible means to prevent pumping at joints, cracks and to avoid damage from frost action in cold climates. Incompressible foreign matter in joints and cracks may cause spalling during pavement expansion. Hot pour sealers are not to be used in new construction. Silicone and compression seals are preferred methods of sealing all concrete joints.

132.1 Expansion Joints

Expansion joints are usually transverse joints, although extremely wide pavement may have one or more longitudinal expansion joints. From a maintenance standpoint, longitudinal and transverse expansion joints require similar treatment.

The type of filler and sealing material used in constructing the joints has a direct influence on methods and materials used in maintenance.

Expansion joints may contain a filler which either compresses or extrudes as the concrete expands. In older pavement, the material used for filling expansion joints was almost always a relatively noncompressible material such as asphalt or tar. When the concrete expanded, the filler forced out of the joint, creating an objectionable "bump" on the pavement. Newer pavements contain nonextruding fillers. Almost all expansion joints the maintenance man deals with today have nonextruding fillers.

132.2 Maintenance of Nonextruding Expansion Joints

Replacement of the nonextruding filler is sometimes required. The top of the filler is usually at a sufficient depth (1/8 inch or more) below the surface of the pavement.

Maintenance of polymerized asphalt joints usually involves replenishing or replacing the seal material. Add a small amount of sealing material to keep the joint well sealed if the old sealing material is of good quality. Replace the sealing material if the old material has become brittle or "dead" and no longer adheres to the concrete and top of the joint, a condition caused by evaporation of volatile oils, by oxidation, or by other chemical or physical changes in the sealing material. Loss of resiliency also may be caused by overheating the sealing material at the time it was placed. If the joint is partially filled with foreign material, such as sand and gravel, replace the old seal.

Silicone joint filler is the preferred method on all concrete joints, but the proper installation is essential to providing a long lasting seal. All existing material must be removed from the joint either by routing or sand blasting. While sand blasting, pay particular attention to the walls of the joint to remove all dirt and foreign mater and provide a clean surface for the silicone material. This cleaning process must remove

all material down to a depth of three (3) inches from the roadway surface. A closed cell backer rod must be installed into the freshly cleaned joint. The size of the backer rod is 1.25 times the width of the open joint. The backer rod must be placed at a depth of 1 inch and not over 1 1/8 inches from the roadway surface. The silicone is a one-part moisture cure silicone that is poured into the joint to a depth of 1/2 inch and not greater than 5/8 inch over the backer rod. Do not allow traffic to return to the roadway until the silicone has formed a crust to prevent contamination from roadway debris (usually one hour at 70°F).

Do not delay replacement until the old seal has disappeared. Inspect the joints occasionally and replace hard, lifeless seals or seals that have lost their bond to the joint edge. Resealing of joints is not a seasonal operation; it should be done as the need becomes apparent. In the spring and fall, however, inspect joints to see if they need resealing. Make a special effort to get all joints sealed before winter weather. Best results in joint and crack sealing are obtained when the pavement contraction is at or near the maximum and the opening at joints and cracks is relatively large.

In replacing sealing material, remove the old dead seal so that the new material will have a good bond. Use stiff fiber or steel brooms and bars shaped to fit the joint space. Power-driven rotary cutters remove old sealing material and foreign matter and simultaneously roughen the sidewalls of the joint to ensure a good bond with the new seal. Sandblast joints to provide a clean surface for new joint material whenever possible.

When joints require replenishing of the sealing material, but not replacement, remove only loose and foreign material from the joint before resealing, using hand brooms or stiff fiber or steel bristles. Better results are obtained by using power-driven brushes which do this work rapidly at low cost.

When the concrete is dry and the joints have been thoroughly cleaned, they are ready for sealing. Use compressed air to blow out and dry the joint before sealing.

Use just enough sealing material to fill the joint within 1/8 inch of the surface. Overfilling is wasteful and causes an unsightly stripe across the pavement. Traffic can also pull joint material out of overfilled joints. A little experience in placement will show the correct amount of sealing material to use. Hot-poured material used to fill deep joints may shrink perceptibly while cooling. When it does, add additional sealing material.

Keep traffic off the pavement until the joint material takes its initial set (usually within one hour).

132.3 Contraction Joints

There are several types of contraction joints. The dummy-groove joint, consists of a surface groove about 3 to 10 mm (1/8 to 3/8 inch) wide and 38 to 101 mm (1 1/2 to 4 inches) deep, filled with a joint sealing material. The groove was formed while the

concrete was still workable, or was cut in the hardened pavement with a concrete saw.

Many pavements have been built with contraction joints formed by inserting premolded strips or ribbons in the freshly placed concrete. The strip in this type of weakened-plane joint varies from 2 to 6 mm (1/16 to 1/4 inch) wide and 51 to 101 mm (2 to 4 inches) deep. These strips are placed flush with the pavement surface or slightly buried so there is no visible evidence except for surface cracks.

The hand-formed groove with a poured seal is easy to maintain. If the original sealing material was of good quality, and if it was not burned or damaged when it was placed, remove only loose or foreign material in the joint groove. Clean the joint and add sealing material. Avoid overfilling.

When the original seal requires replacement, it may be "plowed out," using the same technique and resealing method described for expansion joints.

Sawed joints are sealed in the same way as formed dummy-groove joints except that special equipment may be necessary because of the unusually narrow opening. Power-driven rotary brooms are probably more satisfactory than hand brooms for cleaning when brooming is necessary. Satisfactory results may also be attained by using compressed air forced through a small nozzle.

Premolded strip or ribbon contraction joints normally require little or no maintenance for several years after construction. Do not seal the crack above a buried joint unless a groove is cut in the surface. Sealing material poured on the surface over a relatively narrow crack will not be an effective seal, but will create an unsightly bump on the pavement.

132.4 Longitudinal Center Joints and Construction Joints

Almost all paving equipment is built to construct lanes up to 11.5 m (38 feet) wide, but longitudinal center joints are constructed to produce lanes 3 to 4 m (10 to 14 feet) wide. These center joints are usually one of the types described above for contraction joints and are maintained in the same manner.

132.5 Cracks

Unless the crack is open in excess of 6 mm (1/4 inch) to permit the ready entry of sealing material, do not attempt to seal it. Sealing material applied to the pavement surface over narrow cracks is not effective and is likely to be removed by traffic. Much effort and material are wasted and unsightly conditions are created by attempts to seal hair cracks.

Clean wide cracks before sealing, sandblasting the crack if possible. Where compressed air is available, blow out the crack. Power-driven rotary brushes can also be used to remove all dirt and other inert material. In cases where cracks are open and seals are difficult to maintain, make a groove about 25 mm (1 inch) deep and less

than 13 mm (1/2 inch) wide along the crack with a rotary grooving device or plow to provide a recess for sealing material.

132.6 Sealing Materials

Various types of sealing material are available. Improved products are constantly being placed on the market and recommendations should be sought from both the Materials and Research Sections.

133.0 SLAB JACKING

Slab jacking satisfactorily and economically raises concrete slabs and corrects surface irregularities caused by settlement of the subgrade or errors in original construction. This method is used to improve riding qualities of the pavement, reduce impact resulting from fast-moving traffic over the irregularities or correct faulty drainage in paved areas which have settled so that water does not drain properly.

This method is sometimes used for the correction of subgrade conditions which result in pumping at a transverse joint. Slab jacking should fill all cavities under the slabs of a pumping pavement and reseal the slab on a uniform base. Slab jacking consists of drilling holes through the pavement, and pumping grout or other approved material under the pavement through the holes until all cavities are filled and the slab is raised to the desired elevation.

After the jacking is finished, clean the holes and fill with concrete mortar having a 1:3 mix. Be careful to prevent pyramiding of the grout under the slab near the hole. The jacking operation should raise the slab slowly with uniform pressure, filling all cavities to provide uniform bearing. In order to accomplish this, holes must be drilled close enough to permit the lifting medium to flow properly under the slab. If the lifting medium is pumped too fast, the slab may be cracked by pyramiding action. The actual speed depends on the thickness of the slurry. A heavy grout should not be pumped at more than 0.03 m³/minute (1 cu. ft./minute) while an average grout flows freely under the slab at about 0.08 m³/minute (3 cu. ft./minute). When jacking is done to fill voids, continue to pump in one hole until the slurry shows in adjacent holes. This method assures complete filling of all voids.

A sand-cement grout with about 20 percent cement and a fine sand will pump readily and develop adequate strength. This type of grout develops a measurable compressive strength, thereby reducing cracking of slabs after jacking.

Another alternative to grout jacking is using URETEK expanding foam. This proprietary product uses an ethafoam-type material that when pumped under the concrete slab attempts to expand up to fifteen times its original volume. This expanding pressure lifts the concrete slab to its desired elevation. The foam hardens and becomes stable in approximately 20 minutes. At that time, traffic can be allowed across the slabs.

Careless or unnecessary jacking does more harm than good. Jack only when necessary to raise slabs that interfere with surface drainage, create a bad bump, or where pumping is serious enough to require correction. Jacking does not strengthen a pavement; it disturbs the subgrade and serves no purpose where no voids exist and no change in elevation is required. It may cause cracking of the slab.

When it is properly used, slab jacking provides a convenient, efficient, and economical means of raising concrete pavement slabs. The cost depends on the amount of lifting medium required to fill voids in the subgrade before lifting starts, the distance the pavement is to be raised, the area of pavement involved, and other local conditions. Proper jacking at the proper times is the best way to avoid pavement deterioration and expensive replacement.

136.0 SHALLOW CONCRETE PAVEMENT REPAIR

The method for repairing spalling concrete depends upon the size of the restoration.

If the area to be restored is small, 2 to 3 feet in width and less than 9 square meters in size, a quick-set concrete mortar should be used to make the repair. First using a concrete saw, make a vertical cut just beyond the limits of the spall or delamination. The saw cut should be 13 mm to 19 mm in depth. This provides a smooth, vertical face for the edge of the patch. Break out the concrete in the area to be repaired with a pneumatic chipping gun (14 kg gun maximum). If reinforcing steel is present in the repair area, the concrete should be removed to 19 mm below the rebar. Sandblast the entire area, removing all loose concrete and cleaning the reinforcing steel of all oxidation.

Mix an approved quick-set mortar such as Master Builders' **Set 45**, Eucolid Concrete Company's **Eucospeed MP**, or Sika's **122 plus**. Follow the manufacturer's recommendations closely. Pay particular attention to the water being added, as a very limited amount of water is necessary to hydrate all the cement in each bag. Too much water can result in premature failure of the patching material. Mixing should be done in a paddle wheel grout mixer for best results. Additional clean 9 mm pea gravel can be added to the mix (up to 50% by volume) to extend the patching material and give it strength and wearing resistance. Moisten the surface of the hole to be patched with water just prior to pouring patching material. The bottom and sides of the patch area should be moist, but with no standing water. Pour in the thoroughly mixed patching material and tamp vigorously into all areas of the void. Strike off the patching material to a level even or slightly higher than the adjacent roadway. Most quick-set patching materials are self-leveling. Shortly after hydration begins, the material may run slightly to the lower edge of the patch if repair is done on a roadway with a steep cross slope.

Minimal finishing is required with most pre-packaged patching materials. Smooth the patch with magnesium trowel or wood float. Let stand for required curing time, normally one to two hours, before allowing traffic over the patched areas.

All patches of this nature should be excavated and sandblasted prior to 2:00 p.m. to allow time for pouring, finishing, and curing of concrete during the same working day. This will prevent the need for nighttime traffic control. In areas with rush hour traffic, times should be adjusted to ensure opening prior to rush hour.

If the area is larger than 9 square meters in size, a normal transit mixed concrete should be used to patch spalled or delaminated concrete roadways. Recognize that transit mix concrete is substantially less expensive than the pre-packaged concrete repair materials, but it will require extended curing time (up to three days) before the patched area is opened to traffic.

Using a concrete saw, make a vertical cut around the entire area to be removed similar to the procedure outlined above. Remove all damaged, delaminated or spalled concrete within the patch area. If reinforcing steel is found inside the area to be patched, remove the concrete to 19 mm below the rebar.

When damage is at or near the full depth of the slab, a full depth repair may be required. In this case, stabilize the base material and compact any areas disturbed by the excavation of the repair. To assist in transfer of wheel loads from the existing slabs to the new repair, one of two methods must be performed:

- Option 1: Drill and install 9 mm x 432 mm rebar dowels at the mid-depth of the adjacent concrete slabs 576 mm on center around the entire patch. Dowels should be drilled and set to a depth of 216 mm into the existing slabs. Do not set dowels in areas where the edge of the patch is an expansion joint.
- Option 2: Excavate an area 216 mm in depth and 288 mm in width under the adjacent slabs. This is to provide for new concrete to flow under adjacent slabs and help in load transfer of traffic wheel pressures. Do not excavate the area along edges of the repair with expansion joints.

Transit mixed concrete should be ordered with Type III cement and an additive to provide for $6\% \pm 1\%$ air entrainment. Several options of additional additives are available that can reduce the curing time of the concrete. Consult your Materials Engineer for approved concrete mix designs and options.

Moisten all surfaces just prior to placing concrete in the patch area. Be sure there is no free standing water in the repair area. Pour and vigorously tamp or vibrate concrete into all areas of the repair. Strike concrete level or slightly higher than adjacent roadway slabs. If concrete contains heavy amounts of additives, it will appear sticky and be difficult to trowel. In these instances you may use a pre-packaged finishing aide to assist in the troweling operation. Both Sika and Eucolid Concrete Products have such finishing aid products.

Finishing shall consist of smoothing the entire patch surface with a bull float. Then use a heavy broom or tine rake to provide a friction surface with the tines running perpendicular to traffic. After finishing is complete, spray the entire patch with approved curing compound or lay wet burlap over the patch and keep wet through the concrete curing period.

If early opening for traffic is anticipated, concrete cylinders can be taken to determine adequate strength of the patch before removing traffic control. Minimum concrete strength should be 3000 psi before allowing traffic on patched areas.

150.0 BRIDGES

Bridge maintenance and inspection are included in the following sections.

150.1 Definitions

Bridges: All structures having an opening measured along the center of the roadway of more than 6.1 m (20 feet) between abutments or spring lines of arches or extreme ends of openings for multiple boxes. It may also include multiple pipes where the distance between the openings is less than half the smallest pipe's opening.

Short Spans: All structures 6.1 m (20 feet) or less, as defined under "Bridges" above. Structures with a clear span of less than 3 m (10 feet), measured normal to center line of features intersected are not included in the inspection program.

Culverts: Metal pipe, timber, concrete culverts and other structures with less than 3 m (10 feet) of clear span measured normal to center line of feature intersected.

Overpass: A grade separation where the subject highway passes over the intersecting facility.

Underpass: A grade separation where the subject highway passes under the intersecting facility.

Grade

Separation: A structure carrying traffic of one highway over another highway.

150.2 Responsibilities of Headquarters Maintenance

The Headquarters Maintenance Engineer is responsible to ensure the following activities with regards to bridge maintenance are performed:

- a) Assist the Districts in identifying and justifying projects for contract repairs.
- b) Assist the Districts when requested on all projects involving state forces repairs.
- c) Coordinate with the Districts on all projects that involve specialty repairs to ensure the operations are planned and executed properly.
- d) Provide supplementary material resources to the Districts for bridge repairs by state forces.
- e) Develop and maintain the "Bridge and Drainage Maintenance Course" and assist in its teaching.

- f) Provide technical advice on materials and repair procedures for projects involving state forces.

150.3 Responsibilities of the Districts

The District Engineer is responsible for all structures within their respective district.

The District Engineer will ensure the following activities with regards to bridge maintenance are performed:

- a) Initiate all projects for contract repairs.
- b) Request assistance and consultation from headquarters maintenance and bridge design on all projects involving technical or non-routine maintenance and repairs.
- c) Assist Headquarters Maintenance on all projects that involve specialty repairs and the Headquarters Maintenance Quality Specialist (MQS) as needed (e.g., traffic control and flaggers).
- d) Performing delamination studies, chloride tests, and half-cell studies on bridge decks, superstructures, and substructures.
- e) Provide all materials for bridge repairs by state forces.
- f) Ensure routine, visual inspections of all bridges are performed [per Subsection 150.11](#).
- g) Ensure restricted bridges are posted per [Subsection 150.6](#).

150.4 Responsibilities of Headquarters Bridge Section

The Bridge Engineer is responsible to ensure the that following bridge activities are performed:

- a) All necessary routine, underwater, and in-depth inspections required by federal law.
- b) Assist the Districts in identifying, justifying and estimating projects for contract repairs.
- c) Provide technical advice and perform designs on repair projects involving state forces and contract repairs.
- d) Coordinate through Bridge Inspection with districts to ensure bridges are properly posted, if required.
- e) Perform bridge capacity and load analysis.

- f) Develop and maintain a bridge management system that will coordinate all necessary repairs to the Districts and Headquarters MQS and assist in prioritizing these repairs.

150.5 Performance of Bridge Maintenance Activities

Bridge maintenance activities are the responsibility of the district with assistance provided by the MQS as necessary. The following guidelines are flexible and will vary depending on workloads, crew size, crew expertise, and equipment available. The district crews will perform all cleaning activities, including a yearly water flush of all decks, drains, bearings, joints, pier caps, abutment seats, concrete rails and parapets each spring. District crews will also be responsible for all preventive maintenance activities such as painting, coating and sealant applications and for routine, minor deck patching and railing repairs. District crews will also perform maintenance of the stream channel to include: debris removal, stabilizing banks and correcting erosion problems. The Districts will also coordinate all sign and utility repairs and handle emergencies as necessary.

The District Bridge and Building crews should anticipate the need for technical and specialized repairs to include: jacking up the structures, crack repairs, epoxy injection, repairing or adjusting bearing systems, repair and sealing of expansion joints, repair or reinforcement of main structural members to include stringers, beams, piers, pier and pile cap, abutments and footings, underwater repairs, major deck repairs, and major applications of coatings and sealants.

The District should plan and budget for contracting all bridge maintenance activities too large for the district bridge and building crew to accomplish.

The Headquarters MQS is available to assist the district in planning, coordinating, and performing technical and specialized repairs described above. The MQS will also provide assistance for emergency repairs involving the above components and activities.

150.6 Posting of Bridges

Each bridge will be analyzed for its load capacity based on the structural conditions documented in the field inspection report. Capacity is reported in terms of three typical vehicles according to [Section 6 of "Manual for Condition Evaluation of Bridges."](#) The typical trucks are:

Type 3	3-axle truck with a GVW of 24,490 kg (27 tons).
Type 3S2	5-axle truck and semi-trailer with GVW of 40,820 kg (45 tons).
Type 3-3	6-axle truck and trailer with GVW of 38,100 kg (42 tons).

Posting is mandatory when the typical vehicle weight develops stresses in the bridge that are 75 percent or more of the yield stress of the material. The Bridge Inspection

Engineer prepares the "Bridge Safety Analysis," outlining the operating restrictions and maximum gross vehicle weights to be posted. Districts will do the posting.

150.7 Emergency Bridge Repair and Closure

[See Section 322.1](#), Bridge Closure.

150.8 Overlays and Bituminous Chip Seals Coats on Bridges

The placement of plant mix overlays and bituminous chip seal coats on bridge decks is discouraged and will be allowed only under the following conditions:

- a) Be verified by the Bridge Engineer as structurally acceptable early in the planning phase.
- b) Employ protective measures for expansion joints to ensure the filler material is not damaged and open joints are not contaminated with plant mix or emulsion.
- c) Have a waterproof membrane seal placed on the concrete surface underneath it.
- d) Be placed no thicker than 50 mm (2") total of all composites.

150.9 Vertical and Overhead Clearance on Bridges

It is the intent of the ITD Maintenance Section to maintain horizontal and vertical clearances on all structures at distances not less than shown on the as constructed plans or as required by agreements with the railroads on underpasses.

Current design standards for vertical clearances on Idaho routes call for 4.9 meters (16 ft.) minimum. Any clearance less than 4.9 meters must be posted in accordance with Section 167.5 of the Traffic Manual.

It is critical that any changes in horizontal or vertical clearances be coordinated well in advance with the Special Permits Unit.

150.10 Local Bridge Inspection Program

The Local Bridge Inspection Program will be administered by the Bridge Inspection Engineer. The information derived from the local bridge inspection program is transferred to the appropriate local jurisdiction to establish a list of bridges eligible for rehabilitation or replacement using federal funding.

150.11 Routine Maintenance Inspection of Bridges

Routine inspection of bridges should be performed periodically by maintenance personnel during regular patrols. Inspections should be at least once every six months or after any potentially harmful natural event such as an accident, major

storm, flood, earthquake, etc. The section foreman or lead man should perform a visual inspection of each structure and note this in his log. Any problems or questions should be referred to the District Maintenance Engineer or Regional Engineer and then to the Bridge Inspection Engineer at the discretion of the District Engineer. During routine inspections, maintenance personnel should note any sags or deformities in the deck or rail, any erosion of fills, any scour of piers or footings, any problems with bearing systems and any damage resulting from accidents. Areas needing routine cleaning should also be noted and scheduled for action.

150.12 Bridge Damage Inspection and Reports

In the event that there is an accident, incident or suspected damage to any bridge the local maintenance foreman or lead man will complete the bridge damage report form shown in [Figure 150.12](#) and promptly notify the District Maintenance Engineer or Regional Engineer and the Bridge Inspection Engineer. Copies of the damage report should be faxed to the above personnel as soon as possible.

The District Engineer will decide if the bridge is to remain open while the Bridge section is evaluating the damage.

When damage is discovered to bridges owned by others (railroad, city, etc.), that agency will be notified immediately.

Figure 150.12

BRIDGE DAMAGE REPORT

DATE _____

DISTRICT _____

LOCATION: ROUTE _____

MILEPOST _____

STRUCTURE ID NUMBER _____

FEATURE DESCRIPTION

APPROXIMATE DATE AND TIME OF DAMAGE _____

GENERAL CAUSE AND DESCRIPTION OF DAMAGE _____

SKETCH OF DAMAGE [SHOW NORTH ARROW, DIRECTIONS OF TRAFFIC, WATER FLOW, ETC., AND LABEL ROADS (INCLUDE PHOTOS WHEN POSSIBLE)]:

DATE IDAHO STATE POLICE NOTIFIED (IF ACCIDENT) _____

DATE DISTRICT MAINTENANCE ENGINEER NOTIFIED _____

DATE BRIDGE INSPECTION ENGINEER NOTIFIED _____

REPORT PREPARED BY _____ DATE _____

DISTRIBUTION: DISTRICT ENGINEER, DISTRICT MAINTENANCE, HQ BRIDGE, HQ MAINTENANCE

151.0 BRIDGE SUPERSTRUCTURE REPAIR

The District Maintenance Engineer or Regional Engineer will coordinate all major repairs reinforcements and replacements with the Bridge Engineer. This will include all actions on stringers, girders, beams, main truss members, etc., that are other than cosmetic in nature. When plans, detailed drawings or special procedures are needed, the Bridge Engineer will assign a staff member to prepare these. A structural engineer will review all plans, and procedures.

Welding on all main or critical steel members will be performed by a certified welder.

152.0 BRIDGE DECK REPAIR

Major repairs, rehabilitations, replacements and concrete overlays will normally be performed by contract. If performed by state forces, the project will be treated as a superstructure repair and accomplished as outlined in [Subsection 151.0](#) above.

Temporary patches using plant mix pavement may be used by district forces to provide a smooth and safe ride for the traveling public until more permanent repairs can be made. The area to be patched should be clean and dry and all loose concrete removed by hand or power tools prior to placing the plant mix.

Once placed, the plant mix should be compacted to match the existing deck grade.

General concrete patching will be accomplished as follows:

1. Sound or chain drag the area around the deteriorated area to determine the extent of the damage and mark all unsound areas to be removed.
2. Saw cut the deteriorated area to an approximate rectangular form. Saw cut to a minimum depth of 8 mm (1/4 inch). Avoid cutting the rebar or any acute angles on the patch edge. No feathered edges should be allowed anywhere on the patch.
3. Remove the concrete within the cut area using hand or mechanical means that do not exceed 135 Newtons (30 lb. force) in rating. Removal should be to a depth below the rebar mat of twice the size of the largest stone in the patching material.
4. Clean the area to be patched by sand or water blasting ensuring all rust is removed from the rebar and all scale is removed from the edges. Air blast the area to remove any sand or water.
5. Mix, place and cure the patching material according to manufactures recommendations. Ensure the patch surface matches the existing surface grade.

Only appropriate patching materials designed for the purpose intended will be used when possible. All approved patching materials will not have exceeded their storage life. Materials that have low shrinkage, high modulus, high bond, low permeability, and thermal coefficients of expansion similar to concrete will be used when possible. If elastomeric concrete is used, it should not be placed around reinforcing steel unless absolutely necessary. For any deck patching materials recommendations, contact the Maintenance Quality Specialist.

153.0 BRIDGE JOINT REPAIR AND SEALING

Bridge joint repairs and sealing will include all activities necessary to provide functional expansion joints that prevent water leakage onto the bearings and substructure and include: rebuilding or patching the joint edges, installation of modular or strip seal systems, installation of joint filler/sealer material, installation of drainage troughs, and adjustments or securement of the joint components.

Rebuilding or replacement of joint edges will be performed using modified, durable, impact resistant concrete and/or properly secured steel armor for the joint edge material. Decks with plant mix overlays will utilize an elastomeric concrete header a minimum of 400 mm (8 inches) in width and the full depth of the asphalt overlay as a paving dam to retain the plant mix on the deck. For product recommendations of joint materials or joint edge repair materials, contact the Maintenance Quality Specialist.

154.0 BRIDGE SUBSTRUCTURE REPAIRS

Substructure repairs will consist of all repairs on pier caps, piers, bents, piles, abutments, wing walls, and footings. Work will be performed under the same guidelines outlined for superstructure repairs. Concrete patching will be performed as outlined in [Subsection 152.0](#) and may utilize a patching material more suitable for vertical applications. For product recommendations, contact the Maintenance Quality Specialist.

Cracks in concrete are a major problem in many substructure components. Cracks equal to or larger than 1 mm in width should be filled and sealed with a high grade, 100% solids epoxy following the manufactures recommendations. Cracks smaller than 1 mm should be treated as described in Subsection 156.0.

155.0 BRIDGE BEARING SYSTEM REPAIR OR ADJUSTMENT

This activity will consist of all repair and adjustment work involving the bridge bearing units or systems to include: rockers, rollers, pots, elastomeric pads, etc.

Work will be performed under the same guidelines as outlined for superstructure repairs.

156.0 BRIDGE PAINTING/COATING/SEALING

This activity will consist of all protective and preventative maintenance activities designed to prevent deterioration of structure components.

All components made of non-weathering steel will be painted with an approved zinc or alkyl base paint at a frequency necessary to protect the steel from rust and corrosion. Bridges painted prior to 1975 probably used lead, chromium, or cadmium based paint which if removed must be removed according to strict EPA and OSHA guidelines and disposed of as a hazardous waste. As an alternative to removal, some toxic based paint may be in a condition that will permit an overcoating of paint which will effectively contain the toxic material and protect the steel. Prior to any major painting application, the existing paint must be sampled and the Headquarters Material Section consulted for an appropriate paint system.

Spot painting can be performed by maintenance forces using the following guidelines:

1. If the paint has not been proven to be lead/chromium/cadmium free, treat it as if it were hazardous and brief personnel accordingly (refer to OSHA pamphlet 3126).
2. Personnel removing the paint should wear coveralls, gloves, goggles, and a certified, properly fitting respirator for protection.
3. Ensure a containment system is arranged to catch and retain all the paint removed.
4. Apply an approved chemical paint remover on the desired area and allow it to stand.
5. Remove the paint with hand tools or scrapers that do not cause the paint particles to become airborne.
6. Dispose of hazardous paint at the nearest district headquarters yard at the hazardous waste site in the area marked for toxic paint. Inform district personnel.
7. Prepare and clean the now paint-free surface and repaint the area with an approved paint.
8. Ensure that personnel do not eat, drink or smoke until they are finished and have washed and properly disposed of all contaminated tools and clothing.

Cracks in any bridge component should be evaluated and corrective action taken. A crack in any steel component must be promptly reported to the Bridge Engineer and

corrected per his/her recommendation. Cracks in wood or concrete should be evaluated first and then cleaned and sealed with an appropriate crack sealant. Larger cracks in concrete should be sealed with polymer or epoxy based sealants. Small shrinkage cracks and all concrete surfaces where the concrete is not a specialized or high density concrete such as latex modified or silica fume concrete should be treated with a silane based sealant.

157.0 BRIDGE CURB AND RAILING REPAIR

This activity involves repair or replacement of bridge curbs, medians, parapets, and railing damaged by accidents, deterioration or vandalism to ensure a safe condition for motorists and pedestrians.

Concrete will be repaired as outlined in [Subsection 152.0](#).

158.0 BRIDGE ACCESSORY REPAIR

Activities performed under this category will include all repairs and modifications to approaches, drainage systems, catwalks, sidewalks, cathodic protection devices, ice detection and anti-icing devices, retaining walls, slope paving, fill material, fill stabilization systems and all other items except stream channel features which will be addressed under [Maintenance Activity Code M251 - Channel Repair](#).

The bridge approach must provide a smooth transition to the deck to avoid impact damage. Bituminous ramps can be placed to adjust the grade higher or milling can be used to lower it.

Drainage systems must be directed away from all structural components and modified to prevent erosion. Erosion causes must be identified and corrected. All erosion channels must be filled and compacted with a suitable fill material.

This activity will also be used to address repairs or modifications to utility features such as water, sewer, telephone, cable television, or electrical lines that may be associated with the bridge. Except for emergency, temporary, repairs, work on these features will be performed by the appropriate utility under the supervision of a qualified state inspector. Any modifications other than to restore the utility to its original condition must be approved by the Bridge Engineer in advance.

Specialized features such as cathodic protection devices, ice detection and anti-icing devices, and specialized geotextile systems should be repaired or modified by a qualified technician or in accordance with manufactures recommendations.

Concrete will be repaired as outlined in [Subsection 152.0](#). Major changes to or deletions of any of these features should be reviewed and approved by the Bridge Engineer prior to taking action.

159.0 BRIDGE CLEANING

This work will consist of cleaning all bridge components that are susceptible to dirt, debris, bird dropping and deicing salts.

Drainage systems and components subject to dirt or bird droppings accumulation will be cleaned regularly as needed by hand tools, air blasting or preferably water flushing. Dust or any material that could be inhaled should be avoided by the use of a proper respirator.

Other components such as bare concrete decks, pier caps, abutment seats, bearing systems, non-sealed or open expansion joints, joint drainage troughs, head walls, wing walls, select beam flanges, truss joints etc. should receive a thorough water flush every spring (after applications of deicing salts have ceased) as a bare minimum. Whenever possible, a silicone sealant should be applied to all porous surfaces after cleaning.

Personnel should become familiar with various types of bearing devices. Mechanical bearing devices should be lubricated after cleaning to prevent rusting and assist in their movement.

Clearing of weeds, float debris, brush and overhanging limbs from the vicinity of the bridge will be performed under [Maintenance Activity M251 - Channel Repair](#).

160.0 BRIDGE INSPECTION**160.1 Operational and Instructional Manuals**

The operational and instructional manuals developed for reference are:

- 1) Current "[Standard Specifications for Highway Bridges](#)," adopted by AASHTO.
- 2) Current "[Manual for Condition Evaluation of Bridges](#)", prepared by AASHTO.
- 3) The "[Bridge Maintenance Inspection Coding Procedures Manual](#)," prepared by the ITD.
- 4) Current "[Bridge Inspector's Training Manual](#)," prepared by the U.S. Department of Transportation/Federal Highway Administration.

160.2 Responsibilities for Bridge Inspection

The Bridge Inspection Engineer is responsible to ensure that a bridge inspection program is in place for all state, local and off-system bridges that meets all federal and state requirements. The Bridge Inspection Engineer will ensure that each bridge receives inspections at a frequency in accordance with its condition and traffic characteristics but not less than the frequency required by Title 23 Code of Federal Regulations.

The Bridge Inspection Engineer is responsible to ensure that the bridge inspection data base on state, local and off-system bridges is maintained properly, that all structures are inventoried, and that yearly updated reports (or magnetic tapes) on bridge status and critical bridge maps are prepared for the Federal Highway Administration and ITD sections. The Bridge Inspection Engineer will also ensure that all inspectors receive the necessary training to perform the inspections necessary.

160.3 Bridge Inspection Reports

The certified Bridge Inspector makes field inspections and prepares structural condition reports on form DH-325A "Bridge Field Inspection Report." The Inspector submits the report with photographs of the approach view and the elevation view of the bridge to the Bridge Inspection Engineer for review. An approved copy will be sent to each district which shall maintain a file of inspections for future reference.

Maintenance needs will be identified and quantified by the Inspectors and assigned to the districts or the headquarters maintenance crews based upon the guidelines outlined in [Subsection 150.5](#).

161.0 STANDARD BRIDGE INSPECTION

Bridge Inspectors should confer with the Maintenance Foremen in each area on all bridges in that area of any suspected or reoccurring problems they are having.

Bridges will be inspected by a licensed engineer or certified bridge inspector at the following frequency unless conditions warrant more often:

- 1) All weight limit posted bridges and all bridges with questionable conditions will be inspected yearly.
- 2) Normally all bridges will be inspected at regular intervals not to exceed two years.
- 3) Certain types or groups of bridges where past inspection reports and favorable conditions and analysis exist may justify less inspection frequency. Upon FHWA approval inspection intervals of up to 4 years may be implemented.

162.0 UNDERWATER BRIDGE INSPECTION

Bridges with underwater members that cannot be visually evaluated during periods of low flow will have underwater inspections performed on them not less than once every 5 years. Those determined to be scour susceptible will be inspected at a frequency as determined necessary by the Bridge Inspection Engineer.

Underwater inspections will be performed by certified divers that have been trained to identify problems and that are under the supervision of a certified bridge inspector.

163.0 IN-DEPTH BRIDGE INSPECTIONS

In-depth bridge inspections will be performed on all critical bridges and certain types of bridges at a frequency determined by the Bridge Inspection Engineer.

These inspections may be performed in house or by consultants and will thoroughly inspect and test all bridge components.

Use of ITD bridge inspection cranes on roadways will utilize a crash truck for protection in addition to normal traffic controls.

164.0 BRIDGE ANALYSIS OF LOAD CAPACITY

The bridge analysis of load capacity will be performed on each bridge on the state, local and off-system. Analysis of the bridges will be performed in house using the "Bridge Analysis Rating System" (BARS) or other viable methods.

165.0 BRIDGE MAINTENANCE INSPECTION PROGRAM ADMINISTRATION

This activity will encompass the general administration for inspection and inventory of all bridges on the state, local and off-system bridges in accordance with Title 23 of the Code of Federal Regulations.

ROADSIDES (200)**201.1 ENVIRONMENT**

The Idaho Transportation Department (ITD) is charged with a clear mandate to preserve and protect the environment. ITD recognizes that these environmental concerns shall be addressed within our roadside construction and maintenance activities. It is ITD's intent to be responsible land managers and neighbors and to conduct responsible stewardship on all state roadsides, roadways, and properties under ITD ownership and jurisdiction.

Roadside maintenance activities and associated impacts are creating an increasing public awareness in the maintenance and operation of the state highway system. Roadside environmental issues or concerns can be directly related to construction and maintenance activities that adversely affect roadsides.

Federal, state, and local laws and ITD policies and practices have been enacted, which are aimed primarily at protecting or improving air and water quality, preserving wetlands, minimizing adverse roadside visual impacts, preserving protected biological species, preserving archaeological and historical sites, and managing noxious and undesirable invasive weeds and hazardous waste.

Maintenance personnel should be aware of the impact roadside maintenance activities have on the roadside environment, and every effort should be made to minimize these impacts. When maintenance activities adversely impact a roadside area, it shall be the district maintenance staff's responsibility to take positive action and repair the disruption as soon as possible.

Maintenance personnel should become very familiar with [ITD's Erosion and Sediment Control Manual of Best Management Practices \(BMP\)](#). The [BMP manual](#) should be referred to whenever disturbed roadside areas are in need of repairs, when corrective measures need to be made, or when preventative measures need to be installed due to pending roadside maintenance.

Every effort should be made to revegetate disturbed or bare areas. Established vegetation prevents erosion by stabilizing the soil and surface area and acts as a biofiltration measure for road surface and roadside runoff.

201.1.1 Water Quality

Federal law prohibits disturbance or damage of waters of the United States through routine maintenance. ITD is legally bound to comply with these federal laws ([National Environmental Policy Act](#), [Fish and Wildlife Coordination Act](#), and [Clean Water Act](#)) and with associated state and local laws that are in effect.

Before any wetland, water of the United States, or area suspected to be wetland is filled or dredged due to ditch, yard, material source, or roadside work, proper permits must be obtained. Contact the District Environmental Planner for assistance in the proper procedure to follow. In emergency and life-threatening situations, at the discretion of the foreman, clearance and permitting is not necessary until after the emergency or threat has been corrected.

When working on the roadsides, yards, and other ITD properties, maintenance staff is responsible for implementation of erosion and sediment control measures to assure that water discharge from the area is as clean as practicable of any sediment or pollutants. Erosion and sediment control measures will need to be checked periodically and after storm events or snow melt to ensure they are operating properly. Repairs or adjustments may be required and sediment may have to be removed and disposed of properly.

201.1.2 Air Quality

Open burning and dust raising through routine maintenance activities is to be avoided or kept to an absolute minimum. ITD, as a responsible land manager, is committed to clean air standards by not contributing to air pollution. This commitment requires a concerted effort on the part of all maintenance staff to find methods and management practices that prevent contamination of the air.

201.1.2.1 Burning

Open burning can produce hazardous contaminants, unreasonable smoky conditions, additional fire hazards, and unsafe driving conditions. In areas where open burning is regulated, such as cities, counties, state or federal lands (USFS-BLM), or where air quality standards are in effect, a burning permit is required and burning often will be allowed (if at all) only under very restrictive conditions. Every attempt should be made to remove and dispose of flammable materials in approved locations such as landfills. Brush and small trees can be chipped and blown back on the right-of-way or hauled away and stored for later use as erosion control mulch. Brush mowing may be another alternative to consider, if practicable.

If it is determined that burning is the best or only suitable method of disposal, it shall be done with all due caution, traffic control, and strict adherence to all applicable rules and regulations.

201.1.2.2 Dust

Dust or particulate matter (small airborne particles) is a major form of air pollution and can constitute a health hazard and create unsafe driving conditions. Maintenance activities such as sweeping, sand or chip sealing, ditch cleaning, foreslope shaping, roadside repairs, and sanding for snow or ice conditions present possible sources of fugitive dust.

Whenever possible, maintenance staff should use proper methods to minimize dust. Schedule and perform potential dust-raising activities on days or times that minimize the possibility of polluting the air or creating unsafe driving conditions.

201.1.3 Erosion and Sediment Control

Erosion and sediment control is a critical maintenance activity and should not only be considered on previous land-disturbing activities such as road construction, but also on any roadside land-disturbing activity, including slide or flood emergencies. ITD is continually coming under state and federal scrutiny to eliminate sediment discharge into wetlands and the waters of the United States.

There are a sufficient number of best management practices available to the Maintenance Section to effectively treat most ITD yards, facilities, and roadside erosion and sediment problems. The maintenance staff should become familiar with ITD's Erosion and Sediment Control Manual of Best Management Practices and the application of these [BMPs](#). [BMP](#) measures, depending on the situation, are available for perimeter, surface, slope, ditch, channel, and inlet and outlet protection, to name a few. Revegetation of disturbed or bare areas is the key component to long-term erosion and sediment control and should be used in most instances.

The District Environmental Planner, Vegetation Foreman, or the Roadside Manager in the Headquarters Maintenance Section should be consulted for more detail or if problems arise.

201.1.4 Snow and Ice Removal Operations (Water Quality)

De-icing chemicals and sand used for anti-skid can create problems associated with runoff of these materials to the roadside environment. Application of chemicals such as magnesium chloride and sanding material next to receptor spawning streams, or those streams, rivers, lakes, or wetlands inhabiting protected aquatic species, is of major concern and is coming under strict scrutiny.

Of secondary concern is the potential damage to groundwater or vegetation growing on the roadside where runoff or chemically (primarily salt) treated snow/ice is cast onto the roadside from snow plowing operations. Damage to vegetation can occur either through chemicals in the soil or where it is deposited on the foliage. Symptoms in conifer (pine) trees often are needle browning and needle loss. While some vegetation can compensate for the damage, other vegetation will brown up and die. Physical removal of the brown or dead vegetation may be required to avoid adverse public reaction.

Sanding material and de-icing chemicals should be applied with discrimination, consistent with the environmental, climatic, meteorological, and traffic conditions. It may be necessary to haul or remove from the roadside chemically treated snow and

ice that have the potential to drain directly into a receptor stream, lake, pond, or wetland.

Continued use of chemicals for ice and snow control measures in some sensitive areas may require water quality monitoring and sampling and may have to be altered, curtailed, or even stopped. The same measures apply to vegetation that may be "burned" or killed due to casting chemically treated ice or snow onto vegetation, resulting in a "brown out." This may require removing the vegetation or branches of trees prior to snow removal or in the spring when symptoms of burning or dieback occurs.

Storage of anti-skid material and de-icing chemicals should be done in a manner to minimize contamination of surface and groundwater. Methods should be used to prevent or contain runoff from storage tanks or uncovered stockpiles.

201.1.5 Fertilizers and Chemicals

Use of fertilizers to promote vegetative growth and chemicals (pesticides) to control unwanted pests such as undesirable or noxious weeds shall be used as directed by the District Vegetation Foreman. Overuse and/or dumping can result in severe damage to the environment and/or result in illegal discharge into waters of the United States. Only those maintenance staff trained and experienced in the use and application of fertilizers and chemicals shall directly apply, supervise, or be consulted in their use and application.

201.1.6 Rocks and Debris

Rock falls or debris including slides and flood material that fall onto the road surface or roadside can create safety hazards to the traveling public, as well as environmental concerns. These situations need to be dealt with quickly, safely, and effectively.

When rock or debris is encountered during routine patrol or reported and an employee is dispatched for removal, every effort and precaution should be made to remove the obstacle(s) as quickly as possible. Removal, depending on the circumstances, can be accomplished using equipment or by hand. Care should be taken so the obstacles are not disposed of or cast where they could interfere with or endanger public safety.

The following procedures are to be followed when performing rock/debris removal:

- When plowing rocks from the roadway, the operator should slow the plow to as slow a speed as possible, considering traffic volumes, sight and stopping distances, and weather conditions.
- Rock or debris should not be plowed or otherwise removed to any shoulder that is next to a steep downhill embankment, back or side slope, or any other area that

overlooks lower terrain, roadways, or stream banks unless the area has been reviewed and deemed acceptable for disposal. Whenever possible, rock or debris should be plowed or removed in a safe manner into a ditch next to the uphill cut slope. Do not plug the ditch. The employee should ensure that the rock or debris is secure and not a hazard before leaving the area.

- When rock or debris is encountered in the roadway that cannot be safely plowed or removed from the roadway into a ditch or approved location, appropriate traffic control measures should be taken to prevent accidents until the obstruction can be safely removed.

Maintenance equipment operators shall, at a minimum, activate the required emergency flashing lights while removing rock or debris from the travel lanes.

Disposal of the rock or debris should be at approved sites only. Disposal into wetlands or waters of the United States shall receive prior approval from the Corps of Engineers and the Idaho Department of Water Resources.

201.1.7 Cultural Resources

Federal and state laws prohibit destruction or damage of an archaeological or historical site through routine maintenance. Cultural resource sites are considered as any prehistoric or historic archaeological site, historical site, historical architectural site, paleontological site, or Native American Traditional Cultural Property. To be in compliance with these laws, maintenance activities off the pavement in cut or fill slopes, in existing or new sources, or material sites shall be cleared with the District Environmental Planner or the Archaeologist in the Environmental Section in headquarters.

201.1.8 Biological Resources

Federal law prohibits destruction or damage of any threatened and endangered (T&E) and some candidate species (plant or animal) through routine maintenance. In addition, there are state statutes that must be complied with. There are major criminal consequences for handling, disturbing, or killing T&E species, including large fines and possible jail sentences. All maintenance staff are responsible to ITD to ensure that no T&E species in your maintenance area are injured or destroyed or their habitat impacted without proper permits. Be sure all preliminary field inspections have been done to receive authority to proceed before you conduct any roadside or source work outside of previously cleared areas for T&E species.

At the discretion of the foreman, if there is a genuine life-threatening emergency, clearance is not necessary until after the emergency or threat has been corrected.

201.1.9 Wetlands

Wetlands are highly protected by federal, state, and local laws and ITD policies and practices. These laws and policies require ITD to operate with a "no net loss" of wetland function or acreage. Any addition of fill material or disturbance of existing soils in areas where water moves through or over the soil has the potential to either impact or disturb existing wetlands or create new ones.

Special care shall be taken in all phases of roadside management to ensure proper stewardship of existing wetlands and their buffers. Identification or delineation of wetlands, wetland boundaries, categories and types, assessment of functions and evaluation of impacts require the involvement, participation, and expertise of the District Environmental Planner.

201.1.10 Noxious and Invasive Weeds

Noxious weeds are designated by state law or county ordinance because they cause or can cause adverse or negative economic, ecological, or environmental impacts. Control of noxious weeds is usually very difficult and expensive. ITD is committed by state law to control and manage noxious weeds on all property under its jurisdiction. Highway roadsides and corridors represent a source and means of spread for noxious weeds and every effort should be made to cooperate or be directly involved in the management, control, and eradication of this environmental pollutant.

All maintenance staff should have some familiarity with noxious weeds. Identification, recognition, and early detection are paramount in keeping noxious weed spread in check. Any suspected infestation of noxious weeds or new invasive plants should be reported to the District Vegetation Foreman.

201.1.11 Hazardous Waste

Hazardous waste on the roadsides poses a serious threat to the traveling public and adjacent property owners, and also constitutes a direct threat to maintenance staff. Hazardous waste can create life-threatening situations that need to be handled with extreme care. For details on how to handle hazardous waste incidents, refer to [Section 52.0](#) of this manual.

205.1 ROADSIDE SAFETY

When performing roadside maintenance activities, maintenance staff should give consideration to vegetation-related roadside issues that affect traveler safety, such as clear or recovery zones, sight distance, road shading and living snow fences.

205.1.1 Clear Zone

The clear zone is the total roadside area starting at the edge of the traveled way that is available for safe recovery of errant vehicles. This area may consist of the shoulder, foreslope, or a recoverable slope or clear run-out area. The clear zone may extend beyond the boundary of the right-of-way and should not exceed slopes steeper than 3H:1V without protection to the motorist. At a minimum, the clear zone should extend 30 feet (9 m) from the edge of the road surface into the roadside.

The clear zone should be free of fixed objects (e.g., large trees and rocks). Vegetation in these zones should be maintained at a reduced height to provide for good visibility. Trees and brush should be removed or maintained so as not to be a safety hazard. Refer to [Chapter 6 of Roadway Design Manual](#) for more detail on clear zones.

An added benefit for providing clear zones on roadsides is the ability of the traveler to see and avoid wildlife, livestock, or other potential life-threatening objects on the roadside.

If clear zones cannot be provided, alternate safety devices such as guard rails or jersey barriers should be considered if sufficient room allows.

205.1.2 Sight Distance

Sight distance is the length of highway visible to the driver. It is essential that the driver of a vehicle be able to see far enough both vertically and horizontally in advance to assess potential or developing situations and take appropriate action. Roadside landforms, signs, structures, and low-hanging branches may have to be removed. Vegetation must be maintained at a lower height or removed to facilitate adequate sight distance and safe driving.

Adequate sight distance should be provided at intersections, approaches on the inside of vertical or horizontal curves, and other areas on the roadside that could be a potential problem to the driver. Maintenance staff should be aware of and recognize these safety hazards and take appropriate action to resolve or reduce the problem. Refer to [Chapters 4 and 6 of the Roadway Design Manual](#) for more detail on sight distancing.

205.1.3 Shading

Shading of roadways by obstacles on the roadside such as trees can result in frost, snow, or ice remaining on the roadway creating or prolonging hazardous driving conditions. These conditions occur because of the inability of the sun to reach the roadway in order to melt and dry off these areas. Sometimes it is impossible to remove obstructions such as trees, and the road surface has to be treated and receive special attention with antiskid or de-icing chemicals.

205.1.4 Living Snow Fence

Living snow fences comprised of living plant materials such as grasses, shrubs, and trees can be used to improve driver safety and reduce road closures and maintenance costs. When roads or sections of road are subject to recurring snow blockage due to drifting and blowing snow, well-planned and placed living snow fences can be more cost effective than structural barriers or snow fences.

On the other hand, vegetation such as grass, forbs, shrubs, and trees can act as an unplanned living snow fence and deposit drifting or blowing snow on the roadway. In this case, the vegetation may have to be removed or reduced in height to allow blowing snow to continue to pass over the surface of the road.

Added benefits to installing living snow fences are aesthetic or visual benefits, providing wildlife habitat and noise or visual barriers.

Living snow fences should be considered in those sections of a road that are subject to continuous drifting snow. Considerable thought and planning must be done in advance before living snow fences can be installed. Consult the local USDA Natural Resource Conservation Service or the Roadside Manager in the Headquarters Maintenance Section for more details. Because living snow fences do not fit in all instances, the district may have to revert to permanent or temporary snow fencing or barriers.

210.1 VEGETATION MANAGEMENT

Desirable vegetation on roadsides provides soil stabilization, erosion and dust control, valuable ground cover, and habitat for wildlife; captures sediment (bio-filtration); and creates a more pleasing visual experience to the driver, thereby reducing driver fatigue and competing with undesirable invasive and noxious weeds.

It is the policy of ITD to promote the growth and management of as much native and other adaptable vegetation on roadsides as is compatible with erosion control, safe highway use, attractive appearance, and minimal maintenance.

The achievement of roadside vegetation management objectives requires planning, implementation, control, and coordination of such activities as contracting, seeding, fertilizing, spraying herbicides, mowing, and brush removal and control (cultural, manual, and biological). These activities, individually or in combination, consist of a total Integrated Vegetation Management (IVM) approach to roadside vegetation management and provide compliance with state noxious weed laws.

The objective is to have as much desirable vegetation growing on roadside areas where its presence is suitable and manageable. This would consist of low-growing grass on the foreslopes and a diverse mix of grass, forbs, shrubs, and/or trees on the backslope to the right-of-way boundary. The intent is to remove or control undesirable vegetation (invasive, noxious, or excessive growers) in such a manner that there is little or no regrowth. At the same time, desirable vegetation should be treated in such a manner as to assist and promote the growth, establishment, and vigor of healthy plants. When undesirable vegetation is removed (mechanically or chemically), the ground will not remain bare but will re-establish with whatever species (seed) is on site, whether good or bad.

Maintenance staff who exhibit the interest, experience, and knowledge in roadside vegetation matters and are willing to learn should be selected by District Maintenance to coordinate the District Roadside Vegetation Management Program. At a minimum, each District Maintenance Section shall select an employee at the TTP (Foreman) level to be responsible for managing the District Roadside Vegetation Management Program and a TTS (Crew Leader) to assist. Both of these individuals shall be Licensed Professional Applicators in at least pesticide law and safety and right-of-way herbicide use and application. Vegetation management, supervision, or administration in other areas such as wetlands, lawns/landscape, or rodent control may require additional licensure in aquatic herbicides, ornamental herbicides, and rodenticides. These two individuals shall attend annual certified training in plant and soil science, herbicide use and application, and other related training programs to maintain current licensure and recertification. District Vegetative Management staff are required to stay informed and up to date on the latest research and technical information available for management of vegetation of roadsides. This includes the latest technology on the safe use of herbicides and associated application equipment.

Program administration, technical guidance, and assistance are provided by the Roadside Manager in the Headquarters Maintenance Section, who shall be licensed as a Professional Statewide Consultant.

210.1.1 Vegetation Management Guidelines

Vegetation management on roadside rights-of-way and ITD property shall be carried out according to the following guidelines.

- All vegetation management activities shall be implemented to provide a balanced IVM program using the most environmentally sound and appropriate measures available. Consideration should be directed toward maintaining weed-free roadsides and other ITD properties.
- Priority and emphasis of vegetation management on roadsides will be assigned to the following four levels (zones) of maintenance.
 - Level 1 Foreslope (Mow Zone) will receive the highest priority by promoting the growth of low-growing, fire-resistant grasses and using the most effective control measures [e.g., mowing, plant growth regulator (PGR), selective herbicides, etc.] to accomplish this task. Level 1 will normally be from the edge of the road surface to the bottom of the ditch. Depending on the gradient (degree) of the foreslope, some control measures may not be applicable and alternate control methods may be employed.
 - Level 2 Ditch or Drainage (Transition Zone) will receive the next highest priority by maintaining this area for positive drainage, biofiltration of pollutants and sediments, sight distancing, and clear zone vehicle recovery. This zone may be extended into Level 3, Backslope, depending on vegetative management requirements.
 - Level 3 Backslope (Biodiversity Zone) will receive the least amount of control attention in order to promote establishment of various grasses, forbs, shrubs, and/or trees. This zone, unless treated for specific reasons, should be left alone and managed on an as-needed basis.
 - Level 4 Special (Needs Zone) may cover all three previously mentioned levels of vegetation management and would be utilized where special vegetative management needs are required. This would include spraying or mowing from outside boundary to outside boundary in urban areas; meeting sight distancing or clear zone requirements; reducing or eliminating snow drifting or shading; controlling noxious, invasive, or undesirable weed infestations; and maintaining landscaped areas, biological control release sites, wetland or aquatic sites, agricultural or special crop lands, guardrails, bridge abutments, and other structures and property under ITD jurisdiction other than roadsides.

- Treatment schedules shall be planned to be species- and site-specific to take advantage of the most effective time or times to conduct programmed weed control measures. Climatological, physical, and botanical factors must be considered along with treatment method(s) when planning the annual vegetation management program. Some areas or sites may require two or more treatments annually, while other sites may require treatments once every two or three years. All state highway and ITD property shall be reviewed one or more times annually to determine the vegetative control requirements for the coming (next) years. Immediate corrective action may need to be done during this annual inspection in order to prevent seed formation or spread of an undesirable or noxious weed species.
- Prevention of the spread of undesirable and noxious weeds shall be given program planning attention and priority. This shall include the transfer of weed seed contaminated fill material from sources to the roadsides. The ability to recognize or identify new invading and noxious weed species is required. High priority in planning and carrying out complete eradication is to be initiated whenever new infestations are encountered. Road corridors are a quick way to contribute to the spread of undesirable weeds, and immediate attention and response is required to prevent this spread.
- Establishment of desirable and native species will receive emphasis in the overall planning process for roadside vegetation management. Competition with weeds by desirable species is of prime importance for success, and this weed control method shall be given the highest priority in program planning. Native species will be used for reseeded whenever feasible. Existing native vegetation shall be protected as much as possible.
- Every precaution shall be given to sensitive areas such as riparian areas and wetlands to avoid detrimental effects on these areas. "Brown out" of vegetation, especially shrubs and some trees by using herbicides, creates adverse public reaction and should be avoided as much as possible. Alternative methods of control are available for controlling shrubs and trees and should be utilized in most instances.

210.1.2 Mowing (Activity Code M211)

Roadside mowing is an important phase of vegetation management and, when used in combination with herbicides, should be employed on sections of road where the height of vegetation needs to be reduced for sight distancing, vehicle recovery, snow drifting, fire prevention, drainage, and livestock or wildlife safety. In some cases, depending on the site or areas (e.g., urban or high precipitation), mowing may have to be done more than once a year. Fire resistant, low-growing grasses on the foreslope (mow zone) should be utilized to reduce mowing requirements and times.

Mowing should not be scheduled until after June 30 or until the height of the vegetation exceeds 6 inches (400 mm). Mowing in the fall season can be done when grass is less than 6 inches (400 mm) in order to prevent snow drifting. Mowing after

seed maturity of desirable vegetation is recommended and should be considered when scheduling mowing. Every attempt should be made to protect native and other desirable vegetation. If an area to be mowed is treated with herbicides prior to mowing, delay the mowing two (2) weeks after spraying. Coordinate mowing with other phases of roadside vegetation management.

General roadside mowing should be confined to one mower width extending outward from the edge of the pavement to a predetermined width at the toe of the foreslope. One mower width can be defined as 10-15 feet (3-4.5 m) on the interstate or wide foreslope roads and 6-10 feet (2-3 m) on more narrow or steeper foreslope roads. Urban and other special needs areas (e.g., snow drifting and sight distance) may require solid mowing. Mowing in these areas should be scheduled and timed to meet required objectives.

The mower height should be adjusted so that 6 inches (150 mm) of vegetation remains and scalping of the ground is prevented. Blades, sickles, and flails should be maintained to achieve a sharp clean cut. Special precaution in the operation of the mower must be taken to avoid propelling objects such as rocks and other debris onto the roadway. Maintain all mowers according to manufacturer's recommendation and ensure they are in good working order before mowing. Proper operation of the mower shall include height control, protective baffle or guards, direction of rotation, direction of travel, shut down, turning, and lifting. Removal of berms that develop at the pavement edge may be required prior to mowing.

To better achieve roadside mowing schedules and objectives, ITD is encouraging districts to contract out roadside mowing to private firms on some state highways in the district. If contract mowing is planned, special consideration needs to be given in the contract specifications to cover scheduling, mower width, height of cut, traffic safety concerns, and fire prevention equipment (water tanks, hoses, etc.).

210.1.3 Brush and Tree Control/Removal (Activity Code M212)

Brush and trees that encroach into highway corridors (roadsides) may represent various maintenance and safety problems requiring special attention. Problems associated with brush/tree encroachment are shading, sight distance, vehicle recovery, hazard trees, livestock and wildlife safety, driver and pedestrian safety, and snow drifting or removal. Both brush (shrubs) and trees can be effectively dealt with to minimize these problems yet keep an esthetically pleasing and biologically diverse roadside. The right kind of brush and trees in the proper location on the roadsides provide essential ground cover and varying root depths that aid in soil/ slope stabilization. This in turn provides natural erosion control and prevents slope failure, resulting in less maintenance.

Selective removal of trees and brush and retaining low-growing brush and small caliper trees is recommended over complete and total removal. Selective removal eliminates the appearance of clear-cuts, which may result in negative public reaction.

Where possible, clear brush and trees to a minimum distance of 30 feet (9 m) from the edge of the road surface and more on the inside of curves. This minimal distance will provide and meet adequate clear zone and sight distance requirements. High hazard trees that pose immediate or future problems to traffic and/or driver safety should be removed, regardless of location. All broadleaf brush and trees (stumps) should be treated with an approved herbicide as soon as possible after removal (1-4 hours). This cut stump treatment will prevent regrowth from the stump or sprouting from the roots by killing the plant.

Running the shrubs and tree branches through a chipper is an effective way to handle disposal. The chipped branches can either be blown back directly onto the roadside or retained for later use as landscape or erosion control mulch. IDOC inmate labor is a cost-effective method for brush and tree removal in those districts that utilize this form of labor. Contracting brush or tree removal to private firms, especially for large hazard or difficult trees, should be considered when those situations exist.

210.1.4 Reseeding, Planting, and Fertilizing (Activity Code M213)

Seeding, planting, fertilizing and/or other soil amendments in disturbed, unhealthy and/or poor vegetation stands due to ground disturbance from construction or maintenance activities and/or disturbed areas due to slides, flood events, invasive weed encroachment and/or wildfires is a critical component of an integrated roadside vegetation management. ITD's policy is to maintain appropriate, healthy and sustainable vegetation along roadsides where they are best suited for the conditions and is an on-going management requirement that shall receive appropriate attention and high priority. The benefits from having established desirable and sustainable vegetation include biofiltration (sediment and pollutant capture), erosion control, minimal maintenance, attractive appearance, soil and slope stabilization, reduces weed species, provides ground cover, enhances wildlife habitat, and restores native plant ecosystems.

210.1.4.1 Seeding

Seeding disturbed Level 1 Foreslope (Mow Zone) and Level 2 Ditch (Transition Zone) due to blading, berm removal, ditch cleaning, or other reasons such as weak stands of healthy, desirable vegetation or lack of desirable revegetation establishment, shall be completed in the fall or early winter, or in some cases in the spring. Low-growing, fire-resistant native and other adaptable grasses including Hard Fescue, Covar Sheep Fescue, Idaho Fescue, Siberian Wheatgrass, Sodar Streambank Wheatgrass, Bluebunch Wheatgrass, Slender Wheatgrass, Sandberg Bluegrass, Bottlebrush Squirreltail, Sand Dropseed, or Indian Ricegrass shall be used according to the elevation and annual mean precipitation (MAP) zones located in [the Idaho Roadside Revegetation Handbook](#). All seed shall be certified by Idaho State as noxious weed free. Seeding in Level 3 Backslope (Biodiversity Zone) shall include seed that is comprised of taller grasses with varying types of roots and depth, forbs including native and desirable wildflowers and legumes, shrubs, and/or trees. Seed selection and rate shall be based upon the Idaho Roadside Revegetation Handbook

and/or guidance from the Roadside Programs Administrator in the Headquarters Maintenance Section.

The preferable method of seeding is drill seeding which allows optimal seed to soil contact and produces the best and most effective plant establishment. However, there are some circumstances that are not suitable for drill seeding including unavailability of equipment, steep slopes, saturated soils, and areas with excessive rock, gravel, or hardpan soil. In these cases, broadcast seeding (hydro or dry) should be used. Whenever possible, the soil shall be lightly cultivated or disced prior to seeding and left in a rough condition using a harrow, triple k, cleated crawler, or tiller. All seeded areas shall be covered lightly with soil after seeding whenever possible to provide optimal seed to soil contact. A successful vegetative establishment depends on the amount of positive seed to soil contact and can affect overall vegetation cover.

210.1.4.2 Seed Ordering

All seed ordered shall be certified noxious weed free and include a tag of certification from the Idaho State Seed Lab or State approved laboratory. The majority of seed is ordered through Supply Services Section at headquarters using an unnumbered [ITD-2379, Supply Request Order Form](#). All orders requesting ITD furnished seed are processed through the Roadside Programs Administrator in the Headquarters Maintenance Section. All Supply Request forms shall have the proper maintenance authority and function codes along with the [Activity Code M213](#).

210.1.4.3 Planting

In certain areas of the roadside or ITD property, planting seedlings, tubelings, and bare root, balled, burlapped, or container plants may be desirable for beautification, erosion control, soil and/or slope stability, noise or visual barriers, or living snow fences. In this case, the program warrants careful planning and implementation. The ideal time to plant is in the fall prior to winter freeze-up and snow. Plant species selection should be based on adaptability to the site (preferably native) and locally grown to assure winter hardiness. Refer to [Standard Drawing K-7](#) when planting trees and shrubs.

210.1.4.4 Fertilizing

Since most disturbed roadsides are deficient in vital plant nutrients and beneficial microorganisms, commercial fertilizer applications should be based on a soil analysis report with appropriate recommendations made by an accredited laboratory in order to achieve successful dryland seeding. Areas that are less critical or do not have special requirements or specifications may use fertilizer applications based on the Fertilizer Selection section and general soils map in [Chapter 5 of the Roadway Design Manual](#). In many situations, there are other good alternatives to commercial fertilizer and include topsoil, compost, organic soil amendments, and soil biological stimulants. Soil microorganism inoculants may also be used to provide for healthy and sustainable vegetation growth and establishment. Consult with the Roadside

Programs Administrator in the Headquarters Maintenance Section for assistance and more detail in plant nutrient selection and use.

210.1.5 Cultural Control (Activity Code M216)

With the utilization of IDOC inmate labor in some districts, cultural vegetation management can become a key component or tool in Integrated Vegetation Management. Cultural control, which primarily involves hand labor but is closely associated with mechanical methods (e.g., chainsaws, brush mowing, chippers, etc.), can be utilized to perform a wide array of vegetation management tasks, especially brush and tree removal. Every effort should be made by the districts to use this vegetative management tool where practicable.

210.1.6 Biological Control (Activity Code M216)

Biological vegetation control is the use of plant insects or diseases (pathogens) that are host- or species-specific and, rather than killing a plant, they reduce the vigor of the plant or reduce seed production. Biological agents can bore into roots, stems, or branches and interrupt plant growth, lay eggs in seed heads with the hatched larvae feeding on the seed, form galls on stems or leaves, or form rust spores, etc., on the plant and leaves, which interrupts photosynthesis. Biological agents are the natural predator of plants and are extensively screened before release on noxious or invasive weed infestations. Many noxious and/or invasive weeds come from foreign countries or regions which are introduced into this country without natural predators. A successful integrated pest management program requires a combination of different biological agents that attack the host plant in a variety of ways.

The use of biological agents on ITD property, especially right-of-ways, is encouraged but must be pursued with caution. Biological agents are living mobile organisms that can relocate to other targeted noxious and/or invasive weeds within the highway corridor. Careful consideration must be given to site selection and placement of biological agents in order to preserve the life and success of these organisms. Narrow road corridors that may receive extensive vegetation management such as chemical spraying or mowing are not always conducive to biological agent release. In order for biological agents to be successful, the host plant infestation should be left undisturbed. This may not be possible if the host species infestation is in an urban area or adjacent to agricultural lands, where complete control of the host plant may be required.

The District Vegetation Foreman should be familiar with the positive and negative aspects of collection and release of biological agents, especially as it relates to ITD property. If biological agents are released on ITD property, the host infestation in most instances should be left undisturbed. All information relating to the release including genus and species (host and agent), date, time, county, state, number and life stages of agents released, and site characteristics (land ownership, legal description, host infestation size, and weed characteristics) shall be documented

using a biological control release form which can be obtained from the Roadside Programs Administrator in the Headquarters Maintenance Section. The site, including control of the host plant and survival of biological agent, shall be monitored and recorded on an annual basis for a minimum of 3 years.

210.1.7 Noxious Weeds (Activity Codes M214-M216)

The Idaho State Noxious Weed law is administered by the Idaho Department of Agriculture and declares that specific weeds (listed on the Idaho Noxious Weed List) are designated noxious because they cause or can cause extraordinary negative economic, environmental, and ecological impact and control is usually difficult and expensive. Idaho counties, through county ordinances, have the ability to declare additional noxious weeds within their jurisdictional boundaries. ITD is committed to complying with the Idaho Noxious Weed Law in the prevention, control, management, and/or eradication of noxious weeds on ITD property.

Noxious weed control shall receive high priority within ITD and its districts. All districts are encouraged to enter into cooperative agreements with the individual counties within the district to perform noxious weed control on ITD property. Refer to [ITD-2393](#) and [Administrative Policy A-01-09](#) for more detailed information. These cooperative agreements will identify the roads or areas (location) in the county where ITD property will be treated for noxious weeds and include the targeted species, the approved herbicide(s) treatment and/or application method used and other required specifications for effective treatment. The county will be compensated as agreed in the cooperative agreement. This agreement should receive annual review and update. If the district is unable to enter into a noxious weed control cooperative agreement with an individual county, the district shall assume all noxious weed control responsibilities on ITD property in that county.

In addition to county involvement and agreement, the District Roadside Vegetation Foreman and staff should be involved and participate in state, regional, or cooperative weed management areas pertaining to the comprehensive and strategic management of noxious and invasive weeds.

210.1.8 Chemical Spraying (Activity Codes 214 and 216)

Chemical (herbicide) spraying is the most efficient and cost-effective control method available to the District Roadside Integrated Vegetation Management (IVM) program. When used in combination with other IVM practices, herbicide efficiency and control results increase. Extreme caution should always be used when applying herbicides on ITD roadsides and other ITD property, as adverse safety, public reaction, or liability issues may result.

Herbicides selected for use on ITD property for vegetation management are selected based upon their ability to control all or certain targeted weed species, safety to the

applicator and the general public, and minimal impact on the environment and off-target species.

Equipment used by the district to apply herbicides should be equipped with the most technologically advanced equipment to reduce herbicide exposure to the public, to adjacent off-target species and, in particular, to maintenance staff operating the equipment. Maximum safety measures should be provided in choosing the equipment.

State laws govern the use and application of all pesticides, and it is ITD policy that all district staff applying or supervising the application of pesticides be licensed as Professional Applicators. This licensure requirement covers the use and application of "Restricted Use Pesticides" and the ability to consult and supervise in those categories of pesticide use for which maintenance roadside vegetation staff are licensed.

The licensed spray applicator shall have on the application vehicle at all times a current label of the herbicide(s) being applied and a current Material Safety Data Sheet (MSDS) of the herbicide(s) being applied. It is the responsibility of the District Vegetation Foreman to assure that this procedure is strictly followed.

210.1.8.1 Herbicide Application

Herbicide spraying on ITD roadsides and property is based on the vegetation management guidelines (four levels of vegetation maintenance).

Herbicide treatments in Levels 1 and 2 (Mow and Transition Zones) will be done using selective herbicides based on vegetative control objectives and requirements. The objective in these two zones is to have low-growing, fire resistant grass species. Plant growth regulators should be considered in combination with the selective herbicides chosen for these two levels.

Herbicide treatments in Levels 3 and 4 (Biodiversity and Special Needs Zones) should only be used in areas where circumstances require the application of herbicides to meet vegetative control objectives and requirements. The selection of herbicides for these two zones should meet stricter review requirements and use by the maintenance roadside vegetation staff.

Noxious weed control will be required in all four levels and will be given high priority.

Under no circumstances will herbicide treatments be used in the four levels for the sake of spraying only or to meet self-imposed acreage or mileage goals. The objective is to use herbicides as an efficient and effective management tool and use only in areas where situations exist that justify its use.

Removal of roadside material, such as berms and other ditch cleaning activities, should be carefully considered knowing that this material may have residue resulting from herbicide applications. Wasting or disposing of this material should be done at

approved disposal sites or areas and only after consultation with the District Vegetation Foreman.

All large shrubs or woody plants such as trees shall be removed and the stumps treated with an appropriate herbicide to avoid "brownouts," fire hazards, and unsightly conditions prior to any herbicide treatments.

Herbicide treatment and application should be done during the time of year that will achieve maximum results. The timing should be based on optimum growth stages of the targeted species in conjunction with the design and mode of action of the selected herbicide, whether it is through leaf translocation or through root uptake. Herbicide applications should be done during favorable weather conditions with special consideration given to temperature, wind speed, wind direction, and rainfall events.

210.1.8.2 Spray Equipment

Spray equipment for applying herbicides should be selected based primarily on pesticide safety and exposure to the applicator. Self-contained spray systems using individual herbicide injection systems and computer-controlled spraying with GPS recording devices are the most accurate, effective and state-of-the-art application method available. This equipment can effectively apply herbicides at the prescribed rate to the correct location(s) based on width, speed of travel, and the length of the desired application. Properly calibrated computer equipment in the cab of the spray truck can perform and accomplish all the spray requirements for the job plus record the exact quantity, rate and location of the application.

The District Roadside Vegetation Management crew shall be knowledgeable and proficient in the use and maintenance of this sophisticated equipment to assure accurate herbicide application and record keeping.

210.1.8.3 Herbicide Selection

Herbicide selection for use on ITD roadsides and properties is based on impact to the environment, safety to the applicator, and its ability to control or eliminate weeds meeting ITD vegetation control objectives and requirements. The herbicides selected may be selective, non-selective, or growth regulated. In conjunction with herbicide selection, spray adjuvants such as surfactants, wetting agents, or drift reducers may be used to enhance herbicide activity or reduce or eliminate physical drift of the spray solution.

An approved ITD herbicide list is maintained with the Roadside Program Administrator in Headquarters Maintenance Section. Herbicides and adjuvants on this approved list are determined by the six District Vegetation Foremen and the Roadside Program Administrator. Use of herbicides and adjuvants other than those on the approved list shall be cleared through the Roadside Program Administrator. This applies to herbicides and adjuvants purchased by the district, herbicides and adjuvants used for demonstration and research purposes, herbicides and adjuvants

used in contract spraying, and herbicides and adjuvants used in Noxious Weed Control Agreements with counties. ITD is responsible for all pesticides applied to its properties and will have final approval on their use and application. Application of pesticides and, in particular, herbicides applied by adjacent landowners on ITD rights-of-way shall be discouraged and treated as a prohibited activity and encroachment.

All herbicides used and applied on ITD property shall be used and applied according to manufacturer label recommendations, instructions, limitations, and precautions.

All bidding and awards for purchase of ITD-approved herbicides will be done through Supply Services Section at headquarters and the Idaho Division of Purchasing. The Roadside Program Administrator will coordinate all purchasing, product descriptions and bid specifications. All approved herbicides purchased through the bidding process will be delivered FOB to the districts. Payment for the herbicides will be made by the district from the herbicide budget line item in the District Maintenance Operation's budget.

Storage of herbicides within the district will be in an approved, heated, ventilated, and contained storage area. Preferably this storage area will be isolated from other buildings to reduce the chances of contamination or exposure to district staff. The storage area or building shall be posted with warning notices visible from any direction at a minimum of 25 feet (7.6 meters). The notices shall read as follows:

**DANGER
POISON STORAGE AREA
UNAUTHORIZED PERSONS KEEP OUT**

(Repeat the warning in Spanish)

Place the name and phone number of an individual to contact in case of emergency on the sign.

Herbicide bids now specify that districts can order and buy smaller quantities of the herbicide. This is helpful to the district because less storage (both in size and quantity) is required, thus alleviating the problem of storing large quantities over longer periods of time. The district can now buy herbicides that are in essence stored at the distributor (successful bidder) rather than in the district. This procedure helps because money for herbicides can be better spent and there is less carry-over of herbicides into the next year.

When herbicides are stored on the spray truck(s), the trucks should be parked in an area away from easy access by district staff other than the spray crew. The truck parking area (inside or out) should have containment capable of handling 110% of the volume of the largest hazardous material (i.e., herbicide) containers on that vehicle.

Another issue related to herbicide storage is herbicide container disposal. It is recommended that when districts order a herbicide, the herbicide container be self-contained and returnable. Advantages of using returnable, self-contained containers are a substantial reduction in pesticide exposure to the mixer-loader, there is no longer a triple rinse requirement to meet, and the distributor delivers and collects the containers. There is not the time-consuming, labor-intensive requirement to triple rinse the container, destroy, crush, or cut the container and dispose of the container in an approved landfill. Storage of empty pesticide containers have to meet the same requirements as full or partially-filled containers, thus alleviating this need.

Transfer of pesticides from the self-contained returnable pesticide containers can be accomplished with self-contained transfer pumps, either owned by the district or furnished by the distributor of the product. This procedure also reduces exposure of pesticides to the mixer-loader. Pesticides from self-contained returnable containers can be transferred to small containers as long as the smaller container is properly labeled.

210.1.8.4 Safety

By using the proper equipment and protective and safety gear, the mixer-loader and herbicide applicator can reduce their exposure to pesticides. This is a critical component in ITD's integrated vegetation management program. All spray equipment should be self-contained (injection system) and computer-operated (eliminating any pesticide exposure in the cab). The pesticide containers should be self-contained and

returnable, eliminating exposure and disposal. Transfer pumps and all associated plumbing should be self-contained, with check valves to prevent leakage.

The mixer-loader shall have face shields, proper rubber gloves, boots, and clothing to reduce or eliminate direct exposure to the pesticides. Eye wash and wash-off systems shall be on all spray rigs and in the mix-load area. Approved first-aid safety kits with soap shall also be within easy access on all spray equipment.

Herbicide and adjuvant selection for listing on ITD's approved herbicide and adjuvant list should be based on the least amount of toxicity (oral and dermal) to the mixer-loader, applicator, and the environment.

District staff that will be working with pesticides and exposed or possibly exposed should attend pesticide safety training whenever this training is available.

District staff shall not handle, transport, display, mix-load, apply, or distribute pesticides in any manner that endangers man and his environment or contaminates food, feed, or other products. Pesticide spill and containment kits shall be available on all spray trucks and in the mix-load area.

210.1.8.5 Record Keeping

Districts and ITD are required by state and federal law to keep records of all pesticide applications on ITD property. This requires that the District Roadside Vegetation Foreman be knowledgeable and up-to-date on these requirements and as stipulated in the Idaho Laws and Rules Governing Pesticide Use and Application. Refer to [ITD-2011](#) for more detailed information.

ITD has created a Vegetation Control System written in Microsoft Access that employs a Daily Herbicide Application Log for record keeping. This system allows the district to record and store all herbicide applications as required by state law. As pesticide application records must be kept over a period of years, it is advisable to back these records up on a daily basis and store in separate locations.

210.1.8.6 Contracting

ITD recommends that whenever practicable, roadside herbicide applications be contracted out to private firms. In many cases where reduction in roadside vegetation staff (especially seasonal help) has occurred, annual roadside vegetation objectives and requirements need to be contracted out. This is necessary in order to accomplish the district vegetation objectives and requirements.

Herbicide(s) specified on the contracted projects shall be on ITD's approved herbicide list. Other important factors to consider in the preparation of the bid proposal document should address target species, production, solid or spot treatment requirements, record keeping, expected results, and traffic concerns. It is important that contract herbicide applications be closely monitored by responsible

District Roadside Vegetation Management staff to assure compliance with the contract terms and that all precautions are being closely followed.

220.0 ADOPT-A-HIGHWAY PROGRAM

Through the Adopt-A-Highway Program, volunteer groups have the opportunity to support ITD's anti-litter commitment by adopting sections of state highway right-of-way for the purpose of controlling litter on their adopted sections, as provided for in [Administrative Policy A-05-27](#) and [Board Policy B-05-27](#) – Volunteer Activities.

220.1 Definitions

Adopt-A-Highway Program – ITD's program that emphasizes anti-litter education and utilizes volunteer groups to control litter on their adopted section of state highway right-of-way.

Volunteer Group – Members or employees of civic or nonprofit organizations and commercial or private enterprises participating in the Adopt-A-Highway Program.

Adopt-A-Highway Volunteer Group Contact Person – Individual who serves as spokesperson for the volunteer group and is the volunteer group's contact with ITD.

Adopt-A-Highway Volunteer Group Alternate Representative – Individual who serves as spokesperson for the volunteer group when ITD is unable to locate the Adopt-A-Highway Volunteer Group Contact Person.

District – One of the six districts of ITD having the responsibility of administering their area's Adopt-A-Highway Program, as outlined in the following sections.

Adopted Section – Section of state highway right-of-way approved by the District Engineer for adoption by the volunteer group.

Board – The Idaho Transportation Board.

ITD – The Idaho Transportation Department.

Director – The Director of the Idaho Transportation Department.

District Engineer – The chief executive officer in charge of an ITD district.

Volunteer Services Coordinator – ITD's employee having responsibility for the statewide coordination of the Adopt-A-Highway Program reporting to the headquarters Maintenance Section.

District Adopt-A-Highway Coordinator – The district employee having responsibility for the district coordination of the Adopt-A-Highway Program reporting to the District Engineer.

220.2 Participation in the Adopt-A-Highway Program

Members or employees of civic or nonprofit organizations and commercial or private enterprises may, upon approval by ITD, adopt a section of state highway right-of-way for the purpose of picking up litter from their adopted section under such terms and conditions as provided for in [Administrative Policy A-05-27](#) and [Board Policy B-05-27](#) – Volunteer Activities.

All volunteer groups, with the exception of individual/family groups, will provide the name, daytime telephone number and e-mail address of the Alternate Representative.

No person or group shall be denied the opportunity to participate in this program because of race, sex, color, national origin, or disability.

No group or organization that promotes racial intolerance or harassment is eligible to participate in this program.

220.3 Adopt-A-Highway Program Application

The volunteer group contact person submits an application (see [Figure 220.3](#)) for participation in the Adopt-A-Highway Program to the District Engineer of the district in which the section of state highway right-of-way is located.

The application shall be in the form prescribed by the Director, administered by the Volunteer Services Coordinator, and contain the following information:

- The volunteer group's name, as requested for display on the Adopt-A-Highway signs.
- The name, telephone number, mailing address, and signature of the volunteer group's contact person.
- The name and daytime telephone number of the volunteer group's alternate representative.
- The approximate number of volunteer group members who will be participating in each cleanup.
- The state highway right-of-way section, as nearly as it can be described, that the volunteer group wants to adopt.
- An alternate section of state highway right-of-way that will be used for adoption if the first choice is unavailable.

Fig: 220.3

ITD 2869 (Rev. 5-04)



Adopt-A-Highway Program Application Idaho Transportation Department



Sign Information

1. Complete the boxes as you request your signs to be written. No slogans or logos. Indicate a space by leaving a blank box.
2. Signs shall be limited to one or two lines wherever possible. Use of a third line will require ITD approval.
3. Signs with one or two lines of text will display up to 15 characters, including spaces. Signs with three lines of text will display up to 20 characters, including spaces.

-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Contact Information

Print Name					Day Phone		Extension		E-mail Address				
Mailing Address							City			State		Zip Code	

Alternative Representative Information – Required for all organizations

Print Name					Day Phone		Extension		E-mail Address				
------------	--	--	--	--	-----------	--	-----------	--	----------------	--	--	--	--

Total number of participants in group _____ **Number under 18** _____

Highway Section You are Interested in Adopting – Show highway number, beginning and ending milepost, and other information that will help identify the location.

Signature										Date	

ITD Use Only

_____	_____
Approved Section	Mile Post to Mile Post
_____	_____
Segment Number	County

Mail this form to:

220.4 Approved Application Forms

If the District Engineer approves the application, the volunteer group contact person will provide ITD with the following completed forms:

- [ITD 02868](#), Idaho Adopt-A-Highway Program Agreement Terms and Conditions (see [Figure 220.4-A](#)). The agreement shall be in the form prescribed by the Director, administered by the Volunteer Services Coordinator, and shall contain:
 - An acknowledgment by the volunteer group of the hazardous nature of the work involved in participating in the Adopt-A-Highway Program.
 - An acknowledgment that the members of the volunteer group agree jointly and severally to be bound by and comply with the terms and conditions set forth in the agreement.
 - The respective responsibilities of the volunteer group and ITD, as outlined in [Section 220.5](#).
- ITD 02880, Idaho Adopt-A-Highway Program Volunteer Group Information (see [Figure 220.4-B](#)).
- ITD 02870, Volunteer Release of Liability, Adopt-A-Highway, Volunteer Services or Rest Area Activities Programs (see [Figure 220.4-C](#)).
- ITD 02871, Volunteer Release of Liability, Adopt-A-Highway, Volunteer Services or Rest Area Activities Programs - Under Age 18 (see [Figure 220.4-D](#)).

220.5 Responsibilities of Volunteer Groups and ITD

Volunteer groups participating in the Adopt-A-Highway Program are subject to each of the following requirements and responsibilities:

- Each volunteer group acts as an independent contractor in picking up litter.
- The volunteer group contact person serves as the spokesperson for the volunteer group and is the volunteer group's contact with ITD. Any change in contact person information will be provided to the District Adopt-A-Highway Coordinator and the Volunteer Services Coordinator. If ITD is unable to locate the contact person, the alternate representative will become the volunteer group's contact with ITD.
- All volunteer groups, with the exception of individual family groups, will provide the name and daytime telephone number of the Alternate Representative.
- Participants of the volunteer group agree to obey and abide by all laws and regulations relating to safety and such terms and conditions as may be required by the District Engineer for special conditions on a particular adopted section.

Fig 220.4- A

ITD 2868 (Rev. 8-03)

Idaho Adopt-A-Highway Program Agreement Terms And Conditions



The Idaho Transportation Department, hereinafter called ITD, and _____, hereinafter called the Volunteer Group, recognize the need and the desirability of litter-free highways and are entering into this Adoption Agreement (Agreement).

By signature below, the Volunteer Group, both jointly and severally, acknowledges the hazardous nature of the work and agrees, both jointly and severally, to the following terms and conditions:

- The Volunteer Group contact person serves as spokesperson for the Volunteer Group and is the Volunteer Group's contact with ITD. Any change in contact person information will be provided to the District Adopt-A-Highway Coordinator and ITD's Volunteer Services Coordinator.
- The Volunteer Group Alternate Representative serves as spokesperson for the Volunteer Group when ITD is unable to locate the Volunteer Group contact person.
- All volunteer groups, with the exception of individual/family groups, will provide the name and daytime telephone number of the Alternate Representative.
- Participants of the Volunteer Group agree to obey and abide by all laws and regulations relating to safety and such terms and conditions as may be required by the District Engineer for special conditions on a particular adopted section.
- Volunteer Group members shall be required to sign a release form and attend a safety meeting conducted by the Volunteer Group before participating in a litter cleanup. Every Volunteer Group shall conduct at least one safety meeting per year.
- Every Volunteer Group shall inform all participants of the possible presence of dust, exhaust fumes, plant pollens, sprays, etc. Any participant who may have allergic reactions to any of these conditions should be advised to refrain from participating in the litter cleanups.
- Participants shall not pick up syringes, needles, dead animals, and materials that appear to be toxic, hazardous, or contaminated with blood or urine. The volunteer group contact person will notify ITD of the location of these types of items.
- Each Volunteer Group shall be responsible for maintaining a first-aid kit and adequate drinking water while participating in litter pickup.
- The Volunteer Group shall obtain required supplies and materials from ITD during regular business hours. Supplies will be obtained by the Volunteer Group by completing an ITD-2863, Adopt-A-Highway Equipment Request Form.
- ROADSIDE LITTER PICKUP traffic control signs (48" x 48" roll-up) shall be obtained from ITD (except in adopted segment areas having drop-down traffic control signs), properly

Fig 220.4- A (contd)

- set up by the Volunteer Group prior to beginning the cleanup, and returned to ITD within one week after the cleanup has been completed.
 - Unused supplies furnished by ITD shall be returned to ITD within one week following each cleanup. At the discretion of the District Engineer, safety vests and trash bags may be checked out to the Volunteer Group for longer periods of time.
 - The Volunteer Group shall be responsible for placing litter in trash bags furnished by ITD. The bags shall be tied and placed on the roadway shoulder for pickup by ITD.
 - Persons or Volunteer Groups shall not be denied the opportunity to participate in this program because of their race, sex, color, or national origin.
 - Volunteer Groups that promote racial intolerance or harassment are not eligible to participate in this program.
 - Each Volunteer Group shall be responsible for prohibiting participants from either possessing or consuming alcoholic beverages or illegal drugs while on the adopted section.
 - When participants are younger than 18 years of age, the Volunteer Group shall furnish supervision by a minimum of one adult for every 10 participants. Participants younger than 18 years of age must have their release form signed by a parent or guardian before participating in the Adopt-A-Highway Program.
- The Volunteer Group shall pick up litter a minimum of two times a year, or more frequently if needed. Volunteer Groups will complete a Cleanup Report Card for each pickup and send the card to ITD's Volunteer Services Coordinator.
- Volunteer Groups shall adopt a section of roadway that is 2 miles long, when possible. Shorter sections may be adopted when conditions prohibit adopting 2 miles.
 - Volunteer Groups shall be required to adopt a section for two years.
- Every Volunteer Group shall have the option of renewing the Agreement subject to the approval of the District Engineer, the Volunteer Services Coordinator, and continuation of the Adopt-A-Highway Program by ITD.

ITD agrees to accomplish the following:

- ITD will erect an Adopt-A-Highway sign at each end of the adopted section. The signs will display the Volunteer Group's name or acronym as approved by ITD.
- ITD will provide safety vests, trash bags, traffic control signs, and safety literature for the use of Volunteer Groups.
- To the extent possible, ITD will remove the filled trash bags from the roadsides the first ITD workday following the Volunteer Group's pickup.

Fig 220.4- A (Contd)

Additional terms and conditions:

The Volunteer Group acknowledges and agrees that if any actions by the Volunteer Group relative to the performance of this Agreement are determined to be contrary to any legislative restrictions or any restrictions on the use of appropriated funds for political activities or ITD policy, rules, or procedures, ITD shall have the right to take any and all necessary remedial actions, including, but not limited to, the removal of the Adopt-A-Highway signs displaying the Volunteer Group's name or acronym.

If, in the sole judgment of ITD, it is found that the adopting Volunteer Group is not meeting the terms and conditions of this Agreement, upon 30 days' notice ITD may terminate the Agreement and remove the Adopt-A-Highway signs. This Agreement may be modified in scope or altered in any other manner at the sole discretion of ITD. ITD reserves the right to modify or cancel the Adopt-A-Highway Program at any time and for any reason at the sole discretion of ITD.

ITD and the Volunteer Group both recognize and agree that in no event shall ITD have the right to control the Volunteer Group in performing the actual details of picking up litter from the section of roadway adopted by the Volunteer Group and, in picking up litter, the Volunteer Group shall act as an independent contractor.

ITD recognizes _____
(Volunteer Group Name)

as the adopting Volunteer Group for the following roadway section:

The Volunteer Group accepts the responsibility of picking up litter on this section of highway at least two times per year and promoting a litter-free environment in the community for a period beginning _____, 20____, and ending _____, 20____.

Authorized Signature for Volunteer Group	Signature, District Engineer, Idaho Transportation Department

Fig 220.4-B

ITD 02880 (Rev. 5/01)

**IDAHO ADOPT-A-HIGHWAY PROGRAM
VOLUNTEER GROUP INFORMATION**

Volunteer Group Name: _____

Total Number of Participants: _____

Number of Participants Under Age 18: _____

Volunteer Group Type (mark one):

- ☐ A. Youth/Student (Schools, Scouting, Church, 4-H, etc.)
- ☐ B. Fraternity/Sorority/College-University
- ☐ C. Family/Individual
- ☐ D. Employee-Private or Commercial Firm
- ☐ E. Employee-Public Agency
- ☐ F. Civic (Rotary, Lions, Kiwanis, Chamber of Commerce, etc.)
- ☐ G. Fraternal (Elks, Moose, Eagles, Grange, etc.)
- ☐ H. Miscellaneous Organization/Association (Good Sams, PALS, Senior Citizens, Garden Clubs, etc.)
- ☐ I. Church
- ☐ J. Other (Specify) _____
(Friends of: Unions, Disabled, Foundations, etc.)

Figure 220.4-C

[illegible]

Fig 220.4-D

ITD 2871 (Rev. 2-03)

Volunteer Release Of Liability
Adopt-A-Highway, Volunteer Services or Rest Area Activities Programs
(For Participants Under Age 18)



All participants under the age of eighteen (18) must have this Release form signed by their parent or guardian.

Signed Release Forms must be returned to the Idaho Transportation Department prior to participation in the Adopt-A-Highway, Volunteer Services or Rest Area Activities Programs.

Volunteer Organization	Date
------------------------	------

I do hereby release and discharge the state of Idaho, the Idaho Transportation Board, the Idaho Transportation Department, and their officers, agents, and employees from all claims, demands, and causes of action of every kind whatsoever for any damages and/or injuries that may result from my participation in the Adopt-A-Highway Program and other volunteer activities on or near state highway right-of-way.

I further agree to hold harmless the state of Idaho, the Idaho Transportation Board, the Idaho Transportation Department, and their officers, agents, and employees from liability for any damages or injuries resulting from any negligence or willful wrongdoing on my part during my participation in said volunteer activities on or near the state highway right-of-way.

I have attended the roadside safety training program as a prerequisite to participation in the Adopt-a-Highway and Volunteer Services Programs. (Does not apply to Rest Area Activities Program.)

Minor's Name (please print)	Minor's Address
Minor's Signature	
I certify that I am the above minor's legal parent or guardian and hereby grant permission for him/her to participate in the Adopt-A-Highway, Volunteer Services, or Rest Area Activities Programs. I further agree to abide by the stipulations set forth in the above paragraphs.	
Parent's or Guardian's Name (please print)	Parent's or Guardian's Address (if different from minor)
Parent's or Guardian's Signature	

- Volunteer group members shall be required to sign a release form before participating in a litter clean up (see [Figure 220.4-c](#))
- Participants younger than 18 years of age must have a separate release form signed by a parent or guardian before participating in the Adopt-A-Highway Program (see [Figure 220.4-D](#)).
- Volunteer group members shall be required to attend a safety meeting conducted by the volunteer group contact person before participating in a litter cleanup. Every volunteer group shall conduct at least one safety meeting per year.
- Every volunteer group shall inform all participants of the possible presence of dust, exhaust fumes, plant pollens, pesticides, hazardous materials, etc. Any participants who may have allergic reactions to any of these conditions should be advised to refrain from participating in the litter cleanups (see [Figure 220.5-A](#)).
- Participants shall not pick up syringes, needles, possible drug paraphernalia, dead animals, and materials that appear to be toxic, hazardous, or contaminated with blood or urine. The volunteer group contact person will notify ITD of the location of these types of items (see [Figure 220.5-A](#)).
- Each volunteer group shall be responsible for maintaining a first-aid kit and adequate drinking water while participating in litter pickup.
- The volunteer group shall obtain required supplies and materials from ITD during regular business hours. Supplies will be obtained by the volunteer group by completing an ITD 02863, Idaho Adopt-A-Highway Equipment Request (see [Figure 220.5-B](#)).
- ROADSIDE LITTER PICKUP traffic control signs (48" x 48" roll-up) shall be obtained from ITD (except in adopted segment areas having drop-down traffic control signs), properly set up by the volunteer group prior to beginning the cleanup, and returned to ITD within one week of litter pickup (see [Figure 220.5-C](#)).
- Participants shall wear ITD-supplied safety vests during the litter pickup and follow the other guidelines set forth in [Figure 220.5-D](#).
- Unused supplies furnished by ITD shall be returned to ITD within one week following each cleanup. At the discretion of the District Engineer, safety vests and trashbags may be checked out to the volunteer group for longer periods of time.

Figure 220.5-A



Safety Tips

- Have your litter pickup during daylight on fair weather days.
- Before litter pickup, review two inserts contained in your Adopt-A-Highway information packet: Traffic Control Plan for Volunteer Group Litter Pickup and Bag It, Move It, Leave It.
- Have a first-aid kit available. Put extra gloves and sunscreen in the first-aid kit.
- Wear gloves, long pants, sturdy shoes and an ITD issued safety vest.
- Headsets can interfere with your ability to hear oncoming traffic or other potential hazards and should not be worn.
- Items that might cause injury, such as axes, knives, machetes, etc., should not be carried during litter pickup.
- Don't pick up litter on the roadway, bridges, in tunnels or on overpasses. These areas are especially dangerous for pedestrians.
- Stay clear of mowing operations and maintenance or construction activities.
- Be alert for snakes, stinging insects & poison ivy. Be cautious around tall grass and old logs.
- Don't try to make room in your litterbag by jumping or pushing down on it. You could cut yourself or the bag may rip and you might end up picking the litter up



Idaho Adopt-A-Highway Equipment Request



Volunteer Group Name	Adopted Site	Starting Milepost	Ending Milepost
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Scheduled Litter Pickup Date:

Number of Items Needed: Traffic Control Signs _____ Roll Up Signs _____ Safety Vests _____ Litter Bags _____

I agree to return all items issued within 10 days, unless otherwise approved by ITD.

Name (Printed)	Date
E-Mail Address	Telephone Number

Equipment Return

Litter Pickup Date	Number of Participants	Total Hours Spent on Pickup	Number of Litter Bags Filled
Comments (Suggestions, Problems, Assistance Needed, etc.)			

ITD Use Only

District	Equipment Return Date	Forman Number	Litter Bag Pickup Date
Remarks			
ITD Signature	Title	Date	

Distribution: White Copy – District Yellow Copy – Volunteer Services Coordinator

Figure 220.5-C

TRAFFIC CONTROL PLAN FOR VOLUNTEER GROUP LITTER PICKUP

FIGURE 1

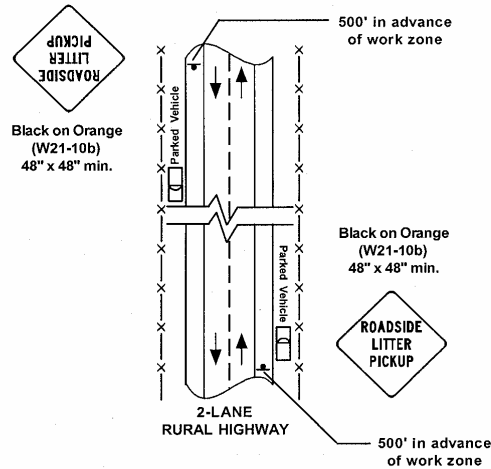
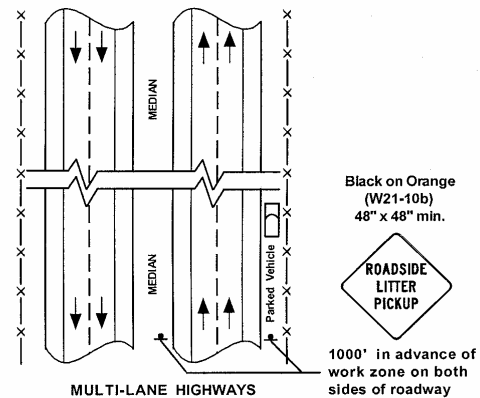
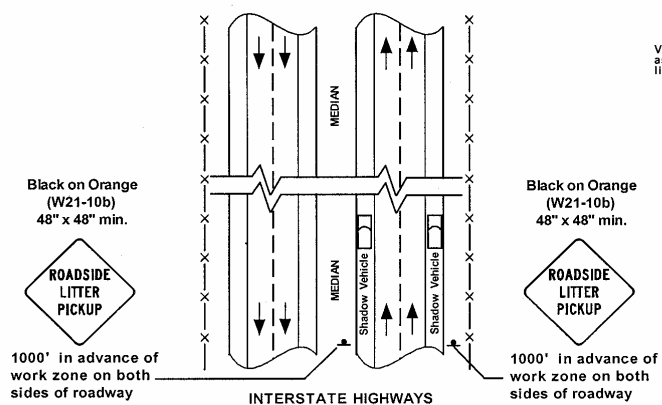


FIGURE 2



Vehicles should be parked off the roadway shoulder as near as possible to the right-of-way fence or boundary line.

FIGURE 3



Shadow vehicle should be used on outside shoulder or inside shoulder, but never both shoulders at once.

** OPTIONAL ** Signing can be added to the back of shadow vehicles for additional advance warning.

Figure 220.5D

GUIDELINES FOR LITTER PICKUP

Litter Pickup –

Two Lane Two Way Roadways -- Participants are restricted to one side of the roadway between the right-hand edge of the pavement and the right-of way fence or boundary at any one time. Litter on the pavement is **NOT** picked up by participants. Crossing back and forth over the roadway is prohibited on two-lane rural highways.

Multiple Lane Divided/Interstate -- Participants working within a median area shall be restricted to the minimum number of crossings required to gain ingress and egress from the median area. It is recommended that the transport vehicle be used to transfer the participants from working on the outside shoulder area to the median area. The transport vehicle can be used as a shadow vehicle (see definition below) to protect workers and minimize the potential for accidents.

Parking -- Volunteer groups should park their vehicles off the roadway shoulder and as near to the right-of-way fence as possible. It is recommended that a minimum number of vehicles be used to transport participants to the litter pickup area.

Safety Vests -- Participants must wear the ITD supplied safety vests during litter pickup.

Shadow Vehicle -- A vehicle used to give advance notice of work taking place through the means of either additional signing mounted on the rear of the vehicle, flashing emergency lights or a flashing rotating beacon. Shadow vehicles, when used, should be parked in advance of the work taking place or be used to follow a moving operation at a distance to give additional protection to the workers. When one large vehicle (van or bus) is used to transport the volunteers it may be parked on the shoulder closest to the litter pickup where it can act as a shadow vehicle for additional protection of the participants. This would allow parking on the inside shoulder for Median pickup or the outside shoulder for litter pickup between the shoulder and the right-of-way fence. If used as a shadow vehicle it will be required to have safety flashers or a rotating flashing beacon in operation during the litter pickup and be parked as close as possible to the outside edge of the roadway shoulder. Supplemental signing mounted on the back of the shadow vehicle may also be used to give additional advance notice to the traveling public.

Signing -- Traffic control signs should be mounted on temporary stands and placed adjacent to the edge of the shoulder.

Two Lane Two Way Roadways (Figure 1)-- Traffic control signs should be placed on both sides of the roadway where litter pickup is taking place. Signing should be at least 500 feet in advance of each end of the litter pickup section for each direction of travel. The lower edge of the sign must be mounted a minimum of one foot (1') above the roadway surface.

Multiple Lane Divided (Figures 2 and 3) -- Signing should be placed on both sides of the travel lanes a minimum of 1000 feet in advance of the litter pickup area. Signs must be mounted with the lower edge of the sign a minimum of six feet (6') above the roadway shoulder. If a shadow vehicle is used for litter pickup on Interstate roadways, consideration should be given to mounting supplemental signing on the back of the shadow vehicle that restates the "Roadside Litter Pickup" message.

- The volunteer group shall be responsible for placing litter in trash bags furnished by ITD. The bags shall not be overfilled and shall be tied. Trash bags shall be placed on the roadway shoulder and behind guardrail, when present. Trash bags shall not be placed on or under bridges. Where possible, trash bags shall be grouped in areas with good sight distance and roadway shoulder significant for safe pickup by ITD.
- No person or volunteer group shall be denied the opportunity to participate in this program because of race, sex, color, or national origin.
- No volunteer group that promotes racial intolerance or harassment is eligible to participate in this program.
- Each volunteer group shall be responsible for prohibiting participants from either possessing or consuming alcoholic beverages or illegal drugs while participating in the Adopt-A-Highway Program.
- When participants are younger than 18 years of age, the volunteer group shall furnish supervision with a minimum of one adult for every 10 participants younger than 18 years of age.
- The volunteer group shall pick up litter a minimum of two times a year, or more frequently if needed. Volunteer groups will complete a Cleanup Report Card for each pickup and send the card to ITD's Volunteer Services Coordinator.
- Volunteer groups shall adopt a section of roadway that is 2 miles long, when possible. Shorter sections may be adopted when conditions prohibit adopting 2 miles.
- Volunteer groups shall be required to adopt a section for two years.
- Every volunteer group shall have the option of renewing the Adopt-A-Highway Agreement subject to the approval of the District Engineer, the Volunteer Services Coordinator, and continuation of the Adopt-A-Highway Program by ITD.

The responsibilities of ITD are:

- ITD will place an Adopt-A-Highway sign (see [Figure 220.5-E](#)) at each end of the adopted section. The sign will display the volunteer group's name or acronym as approved by ITD.
- ITD will provide safety vests, trash bags, traffic control signs, and safety literature for the use of volunteer groups.
- To the extent possible, ITD will remove the filled trash bags from the roadsides the first ITD workday following the volunteer group's pickup.

Figure 220.5-E
SIGN EXAMPLE AND MEASUREMENTS



*Volunteer groups' names or acronyms should be limited to two lines in length, if possible. Names or acronyms requiring three lines must be approved by the District Adopt-A-Highway Coordinator.

220.6 General Limiting Conditions and Eligibility

Because of administrative, legislative, and financial constraints, the Adopt-A-Highway Program shall be subject to each of the following:

- The Adopt-A-Highway Program may, at any time and for any reason, be modified in scope or altered in any other manner at the sole discretion of ITD.
- ITD may consider such factors as width of right-of-way, geometrics, congestion, and reduced sight distance of roadways in determining what highways shall be eligible for adoption.
- ITD will not approve applications for highway sections that fall within the incorporated city limits without concurrence by the appropriate city governing body.
- If any actions are determined to be contrary to any of the provisions of [Section 220.5](#), or to any legislative restrictions or any restrictions on the use of appropriated funds for political activities, ITD shall have the right to take any and all necessary remedial actions, including, but not limited to, the removal of the Adopt-A-Highway signs displaying the volunteer group's name or acronym.
- Adopt-A-Highway signs should be installed for adopted sections as soon as possible.
- Adopt-A-Highway signs shall be 3' 0" by 3' 0" and shall be the standard format established by ITD (see [Figure 220.5-E](#)).
- Adopt-A-Highway signs should remain in good repair as long as a section is actively adopted.
- When a section is no longer adopted, the adopting group's sign shall be removed as soon as practicable and should be replaced with the "to adopt this roadside section call 1-800-443-2878" sign for at least one year or until normal deterioration warrants removal. If no further interest is shown for adopting the section after this interim period, the sign should be removed.
- Annually, at the request of the Volunteer Services Coordinator, each District Adopt-A-Highway Coordinator will select one or two deserving volunteer groups as outstanding group(s) of the year. As recognition, 36" by 18" signs displaying "Outstanding Group of the Year" will be erected under the volunteer group's Adopt-A-Highway signs. The following year, the "Outstanding Group of the Year" signs will be removed and erected to recognize subsequent outstanding groups.

220.7 Modification/Renewal of the Agreement

The Adopt-A-Highway agreement may be modified in scope or altered in any other manner at the sole discretion of ITD. The volunteer group shall have the option of

renewing the agreement subject to the approval of the District Engineer and the continuation by ITD of the Adopt-A-Highway Program.

220.8 Termination of the Program

ITD may terminate the agreement and remove the signs upon 30 days' notice, if in its sole judgment it finds and determines that the volunteer group is not meeting the terms and conditions of the agreement. The Adopt-A-Highway Program may at any time and for any reason be terminated at the sole discretion of ITD.

220.9 Administration of the Adopt-A-Highway Program

Statewide coordination of the program will be provided by the Volunteer Services Coordinator within ITD's headquarters Maintenance Section.

The Volunteer Services Coordinator will:

- Administer program policies and procedures.
- Review program status, needs, and innovations.
- Monitor the performance of volunteer groups to ensure compliance with the terms of the agreement.
- Maintain the Adopt-A-Highway database.

The program will be administered and promoted in the districts by the District Engineers, who will provide staff to serve as coordinators for the program.

The District Adopt-A-Highway Coordinator will:

- Furnish and review the volunteer groups' applications for participation in the program.
- Coordinate proper execution and return of agreements and release forms. The release forms will be kept on file at the district office (see [Figures 220.4-C and 220.4-D](#)).
- Provide the Volunteer Services Coordinator with copies of the following forms upon application approval:
 - The complete and approved application (ITD 02869) (see [Figure 220.3](#)).
 - Volunteer group information (ITD 02880) (see [Figure 220.4-B](#)).
 - The completed agreement (ITD 02868) (see [Figure 220.4-A](#)).
- Provide the volunteer groups with the appropriate material for initial safety training.

- Coordinate arrangements for furnishing volunteer groups with ITD-approved safety vests, trashbags, and traffic control signs.
- Coordinate the placement of Adopt-A-Highway signs displaying the volunteer group's name or acronym at each end of the adopted segment:
 - Adopt-A-Highway signs should be placed to have maximum practical lateral clearance from the traveled way for the safety of motorists.
 - Where the right-of-way and terrain permit, Adopt-A-Highway signs should be placed behind the normal line of highway signs. The face of the Adopt-A-Highway signs should be placed perpendicular to the roadway.
 - If the boundary of an adopted section falls at a road intersection, care should be given to place the Adopt-A-Highway signs so they will not obstruct the sight distance at the intersection.
- Provide information, clarification, and appropriate assistance to the volunteer group contact person.
- Oversee the general performance of each district volunteer group to ensure compliance with the terms of the agreement.
- Select outstanding volunteer groups for recognition.
- Resolve issues, complaints, concerns, etc., regarding the program.

The District Adopt-A-Highway Coordinator may, with approval of the District Engineer, delegate some of the above responsibilities to the Maintenance Foreman. Coordinators will communicate and consult with the Maintenance Foremen when their coordinators' duties involve Maintenance activities in order to provide for effective, efficient administration of the program.

The Maintenance Foreman will:

- To the extent possible, remove the filled trashbags and litter from the roadsides the first ITD workday following the volunteer group's pickup.
- Provide volunteer groups with convenient access to safety vests, trashbags, and traffic control signs.
- Notify the Volunteer Services Coordinator when adopted segments are not being picked up by the volunteer groups as outlined in the agreement.

221.0 VOLUNTEER SERVICES PROGRAM

Through the Volunteer Services Program, volunteer groups or volunteer individuals have the opportunity to engage in ITD-approved activities, as provided for in [Administrative Policy A-05-27](#) and [Board Policy B-05-27](#) – Volunteer Activities.

221.1 Definitions

Volunteer Services Program – ITD's program that utilizes volunteer groups or volunteer individuals to engage in ITD-approved activities not associated with the Adopt-A-Highway Program.

Volunteer Group – Members or employees of civic or nonprofit organizations and commercial or private enterprises engaging in ITD-approved activities without receiving monetary compensation.

Volunteer Individual – An individual who gives time and talent engaging in ITD-approved activities, yet receives no salary, wages or compensation from ITD.

Volunteer Group Contact Person – Individual who serves as the spokesperson for the volunteer group and is the volunteer group's contact with ITD.

District – One of the six districts of ITD.

Board – The Idaho Transportation Board.

ITD – The Idaho Transportation Department.

Director – The Director of the Idaho Transportation Department.

District Engineer – The chief executive officer in charge of a district of ITD.

Volunteer Services Coordinator – ITD's employee having responsibility for the statewide coordination of the Volunteer Services Program reporting to the headquarters Maintenance Section.

District Adopt-A-Highway Coordinator – The district employee having responsibility for the district coordination of the Volunteer Services Program reporting to the District Engineer.

221.2 Participation in the Volunteer Services Program

Members or employees of civic or nonprofit organizations and commercial or private enterprises may, upon approval of ITD, participate in the Volunteer Services Program, as provided for in [Administrative Policy A-05-27](#) and [Board Policy B-05-27](#) – Volunteer Activities.

No person or group shall be denied the opportunity to participate in this program because of race, sex, color, national origin, or disability.

No group, organization, or individual promoting racial intolerance or harassment is eligible to participate in this program.

221.3 Volunteer Services Program Application

The volunteer group's contact person or the individual submits an [ITD 02722](#), Idaho Volunteer Services Program Application, to the Volunteer Services Coordinator (see [Figure 221.3](#)).

The application shall be in the form prescribed by the Director, administered by the Volunteer Services Coordinator, and contain the following information:

- The volunteer group's or individual's name.
- For volunteer groups: The name, telephone number, mailing address, and signature of the volunteer group's contact person and the approximate number of volunteers who will be participating in the approved activity.
- For volunteer individuals: The name, telephone number, mailing address, and signature of the volunteer individual.
- The location or description of where the volunteer service will be performed.
- The type of volunteer service to be performed.
- The date(s) the volunteer service will be performed.

221.4 Volunteer Services Program Agreement

If the application is approved by the District Engineer or the headquarters supervisor responsible for the area in which the volunteer service will be performed, the volunteer group's contact person or the volunteer individual shall complete an [ITD 02721](#), Idaho Volunteer Services Program Agreement Terms and Conditions, for participation in the Volunteer Services Program (see [Figure 221.4](#)).

The agreement shall be in the form prescribed by the Director, administered by the Volunteer Services Coordinator, and contain the following:

- An acknowledgment by the volunteer group or volunteer individual of the potential hazardous nature of the work involved in participating in the Volunteer Services Program.
- An acknowledgment that the members of the volunteer group or volunteer individual agree jointly and severally to be bound by and comply with the terms and conditions set forth in the agreement.
- A list of the respective responsibilities of the volunteer group or volunteer individual and ITD, as outlined in [Section 221.5](#).

Figure 221.3

ITD 02722 (Rev. 5/01)

IDAHO VOLUNTEER SERVICES PROGRAM APPLICATION



Volunteer service is creditable work experience and through the Volunteer Services Program, volunteer groups and individuals give their time and talent engaging in Idaho Transportation Department-approved activities not associated with the Adopt-A-Highway Program. Volunteers receive no wages or benefits and are not considered state employees for any purpose other than tort claims and injury compensation.

VOLUNTEER GROUPS			
Group Name			Number of Volunteers
Contact Person			Day Phone Number
Mailing Address			Contact Person Signature
City	State	Zip	Date

VOLUNTEER INDIVIDUALS			
Name			Day Phone Number
Mailing Address			Signature
City	State	Zip	Date

LOCATION OF SERVICE			

ITD 02722 (Rev. 5/01)
Reverse Side

TYPE OF SERVICE	
Please mark all options that apply:	
<input type="checkbox"/>	Litter Pickup
<input type="checkbox"/>	Wildflower Planting/Maintenance
<input type="checkbox"/>	Graffiti Removal
<input type="checkbox"/>	Landscape Planting/Maintenance
<input type="checkbox"/>	State Highway Right-of-Way Beautification
<input type="checkbox"/>	Clerical
<input type="checkbox"/>	Yard/Building Maintenance
<input type="checkbox"/>	Other _____

DATE(S) OF SERVICE

Upon completion, mail the application to:

Volunteer Services Coordinator
Idaho Transportation Department
PO Box 7129
Boise ID 83707-1129

Figure 221.4

ITD 02721 (Rev. 5/01)

**IDAHO VOLUNTEER SERVICES PROGRAM
AGREEMENT TERMS AND CONDITIONS**

The Idaho Transportation Department, hereinafter called ITD, and _____,

hereinafter called Volunteers (whether a volunteer group or volunteer individual), recognize the need and desirability of using volunteers for ITD-approved activities not associated with the Adopt-A-Highway Program and enter into this Agreement.

By signature below, the Volunteers, both jointly and severally, agree to the following terms and conditions:

GENERAL INFORMATION

- Volunteers act as an independent contractor when participating in the Volunteer Services Program.
- Volunteers agree to obey and abide by all laws and regulations relating to safety and such terms and conditions as may be required by the District Engineer or headquarters supervisor.
- Volunteers shall be required to sign a release form before participating in the Volunteer Services Program. Release forms will be provided to Volunteers after application approval.
- Volunteers younger than 18 years of age must have a separate release form signed by a parent or guardian before participating in any Volunteer Services Program activity. Release forms will be provided to Volunteers after application approval.
- No Volunteers shall be denied the opportunity to participate in this program because of race, sex, color, national origin, or disability.
- No Volunteers that promote racial intolerance or harassment is eligible to participate in this program.
- Volunteers are prohibited from either possessing or consuming alcoholic beverages or illegal drugs while participating in the Volunteer Services Program.
- When Volunteers are younger than 18 years of age, the volunteer group shall furnish supervision with a minimum of one adult for every 10 participants.
- Volunteers required to operate ITD vehicles as part of their volunteer duties shall obtain an ITD-2033, Driver Permit, by completing an ITD-1211, Supervisor's Authorization for an ITD Driving Permit (including Vehicle Operation Guidelines). Volunteers shall be subject to the same rules and regulations as ITD employees when operating ITD vehicles. The Employee Safety/Risk Management Section shall process and issue the Driver Permit.

ROADSIDE SERVICE

- Volunteers shall be required to attend a safety meeting. For volunteer groups, the contact person shall conduct the meeting. Volunteers not part of a group shall obtain and view a safety video from the District Adopt-A-Highway Coordinator before participating in the program.
- All Volunteers should be aware of the possible presence of dust, exhaust fumes, plant pollens, pesticides, hazardous materials, etc., on roadsides and shall not pick up syringes, needles, dead animals, and materials that appear to be toxic, hazardous, or contaminated with blood or urine.

Figure 221.4 (Contd)

ITD 02721 (Rev. 5/01)

- Volunteers shall be responsible for maintaining a first-aid kit and adequate drinking water while participating in the roadside activity.
- Traffic control signs shall be used for roadside activities. Signs shall be obtained from ITD and properly set up prior to any roadside activity.
- Volunteers shall wear ITD-supplied safety vests during roadside activities. Volunteers picking up litter shall be responsible for placing litter in trash bags furnished by ITD. The bags shall be tied and placed on the roadway shoulder for pickup by ITD.
- Supplies and materials shall be obtained from ITD during regular business hours and returned to ITD within one week following the roadside activity.

RESPONSIBILITIES OF ITD

- ITD will provide safety vests, trash bags, traffic control signs, and safety literature for the use of Volunteers participating in roadside activities.
- To the extent possible, ITD will remove filled trash bags from the roadsides the first ITD workday following the litter pickup.
- ITD will provide wildflower seed and site marking flags for pre-approved participation in Operation Wildflower.
- ITD will supply materials required for effective graffiti removal.

 Location of Service

 Type of Service

 Date(s) of Service

 Authorized Volunteer Signature

 District Engineer or Headquarters Supervisor
Signature
TERMINATION OF VOLUNTEER SERVICES AGREEMENT

 Termination Date

 Signature of ITD Supervisor

 Number of Volunteers

 Total Hours Volunteered

221.5 Responsibilities of Volunteer Groups or Volunteer Individuals and ITD

Volunteer groups or volunteer individuals participating in the Volunteer Services Program are subject to the following general requirements and responsibilities:

- Each volunteer group or volunteer individual acts as an independent contractor when participating in the Volunteer Services Program.
- Participants agree to obey and abide by all laws and regulations relating to safety and such terms and conditions as may be required by the District Engineer or headquarters supervisor.
- Volunteers shall be required to sign a release form before participating in the Volunteer Services Program. Release forms will be provided to the volunteer group's contact person or volunteer individual along with appropriate safety information after application approval (see [Figure 220.4-C](#) in the previous section).
- Participants younger than 18 years of age must have a separate release form signed by a parent or guardian before participating in any Volunteer Services Program activity. Release forms will be provided to the volunteer group's contact person or volunteer individual along with appropriate safety information after application approval (see [Figure 220.4-D](#) in the previous section).
- No person or group shall be denied the opportunity to participate in this program because of race, sex, color, national origin, or disability.
- No group or individual that promotes racial intolerance or harassment is eligible to participate in this program.
- Participants are prohibited from either possessing or consuming alcoholic beverages or illegal drugs while participating in the Volunteer Services Program.
- Participants shall not pick up syringes, needles, possible drug paraphernalia dead animals, and materials that appear to be toxic, hazardous, or contaminated with blood or urine. The volunteer group contact person or volunteer individual will notify ITD of the location of these types of items.
- When participants of a volunteer group are younger than 18 years of age, the volunteer group shall furnish supervision with a minimum of one adult for every 10 participants.
- Volunteers required to operate ITD vehicles as part of their volunteer duties shall obtain an [ITD-2033](#), Driver Permit, by completing an [ITD-1211](#), Supervisor's Authorization for an ITD Driving Permit. Volunteers shall be subject to the same rules and regulations as ITD employees when operating ITD vehicles. The

Employee Safety/Risk Management Section shall process applications and issue the Drivers' Permits.

In addition, volunteer groups or volunteer individuals participating in the Volunteer Services Program are subject to the following roadside service requirements and responsibilities:

- Each volunteer shall be required to attend a safety meeting. For volunteer groups, the meeting shall be conducted by the group's contact person. Volunteer individuals who are not part of a volunteer group shall obtain and view a safety video from the District Adopt-A-Highway Coordinator or Volunteer Services Coordinator before participating in the program.
- All participants should be aware of the possible presence of dust, exhaust fumes, plant pollens, pesticides, hazardous materials, etc., on roadsides. Any participant who may have allergic reactions to any of these conditions should refrain from the roadside activity.
- Each volunteer group shall be responsible for maintaining a first-aid kit and adequate drinking water while participating in the roadside activity.
- Traffic control signs shall be used for roadside activities. Signs shall be obtained from ITD and properly set up prior to any roadside activity.
- Participants shall wear ITD-supplied safety vests during roadside activities.
- The volunteer group shall be responsible for placing litter in trash bags furnished by ITD. The bags shall not be overfilled and shall be tied. Trash bags shall be placed on the roadway shoulder and behind guardrail, when present. Trash bags shall not be placed on or under bridges. Where possible, trash bags shall be grouped in areas with good sight distance and roadway shoulder significant for safe pickup by ITD.
- Supplies and materials shall be obtained from ITD during regular business hours and returned to ITD within one week following the roadside activity.

The responsibilities of ITD are:

- ITD will provide safety vests, trash bags, traffic control signs, and safety literature for use by volunteers participating in roadside activities.
- To the extent possible, ITD will remove filled trash bags from the roadsides the first ITD workday following the litter pickup.
- ITD will supply materials required for effective ITD-approved graffiti removal.
- ITD will furnish wildflower seed for ITD-approved seeding sites.

221.6 General Limiting Conditions and Eligibility

Because of administrative, legislative and financial constraints, the Volunteer Services Program shall be subject to each of the following:

- The Volunteer Services Program may, at any time and for any reason, be modified in scope or altered in any other manner at the sole discretion of ITD.
- ITD may consider such factors as width of right-of-way, geometrics, congestion, and reduced sight distance of roadways in determining what locations shall be eligible for volunteer activities.
- ITD will not approve applications for locations that are not state right-of-way.

221.7 Termination of the Program

The Volunteer Services Program may at any time and for any reason be terminated at the sole discretion of ITD.

221.8 Administration of the Volunteer Services Program

Statewide coordination, administration, and implementation of the program will be provided by the Volunteer Services Coordinator within ITD's headquarters Maintenance Section.

The Volunteer Services Coordinator will:

- Administer program policies and procedures.
- Review applications and forward them to the appropriate district, division, or section.
- Maintain a file of the number of volunteers utilized, the total number of work hours donated to ITD by calendar year, the location of the services provided, and the types of service provided. Statistics for the file will be provided by January 15 of each year to the Volunteer Services Coordinator by each division, district, and section that has utilized volunteer services.

The program will be administered and promoted in the districts by the District Engineers who will provide staff to serve as coordinators for the program – most often, the District Adopt-A-Highway Coordinator. The program will be administered and promoted in headquarters divisions and sections by the Volunteer Services Coordinator.

The District Adopt-A-Highway/Volunteer Services Coordinator will:

- Review the volunteer group's or volunteer individual's application ([ITD 02722](#)) for participation in the program.
- Ensure that the volunteer group or volunteer individual has completed an [ITD 02721](#), Idaho Volunteer Services Program Agreement Terms and Conditions.
- Provide the Volunteer Services Coordinator with copies of the following forms:
 - The completed and approved application ([ITD 02722](#)) (see [Figure 221.3](#)).
 - The completed agreement ([ITD 02721](#)) after the Termination of Volunteer Services Agreement statement has been filled in on the reverse side (see [Figure 221.4](#)).
- Provide volunteer groups or volunteer individuals with the appropriate material for safety training.
- Coordinate arrangements for furnishing volunteer groups or volunteer individual completing roadside services with ITD-approved safety vests, trash bags, and traffic control signs.
- Provide information, clarification, and appropriate assistance to the volunteer group's contact person or volunteer individual.
- Resolve issues, complaints, concerns, etc., regarding the program.

222.0 LITTER PICKUP IN ISOLATED AREAS

Litter pickup in isolated areas on state highways is taken care of through the district and includes disposal of dead animals.

222.1 Disposal of Dead Non-Game Animals

Where ownership can be determined by brand, tag or other marking, contact the owner for removal. Local law enforcement personnel are usually helpful in determining the animal's ownership.

Where no ownership can be determined, take the carcass to an approved disposal area and bury it. In areas where private companies make a business of collecting dead animals, inform them of the location of the carcass.

222.2 Disposal of Dead Game Animals

Contact the District Maintenance Engineer/Superintendent for instructions on removing dead game animals.

223.0 OPERATION WILDFLOWER PROGRAM

Through the Operation Wildflower Program, Adopt-A-Highway volunteer groups have the opportunity to participate in ITD-approved wildflower planting on their adopted sections, as provided for in [Administrative Policy A-05-27](#) and [Board Policy B-05-27](#) – Volunteer Activities.

223.1 Definitions

Operation Wildflower – ITD's program that promotes wildflower growth along district-approved state highway right-of-way by Adopt-A-Highway volunteer groups on their adopted sections.

Volunteer Group – Members or employees of civic or nonprofit organizations and commercial or private enterprises participating in the Adopt-A-Highway Program.

Volunteer Group Contact Person – Individual who serves as spokesperson for the Adopt-A-Highway volunteer group and is the group's contact with ITD.

District – One of the six districts of ITD having the responsibility of administering their area's Operation Wildflower Program, as outlined in the following sections.

Adopted Section – Section of the state highway right-of-way approved by the District Engineer for adoption by the volunteer group participating in the Adopt-A-Highway Program. Operation Wildflower Program seeding by the volunteer group is limited to their adopted section.

Board – The Idaho Transportation Board.

ITD – The Idaho Transportation Department.

Director – The Director of the Idaho Transportation Department.

District Engineer – The chief executive officer in charge of an ITD district.

Volunteer Services Coordinator – ITD's employee having responsibility for the statewide administration, implementation, and coordination of the Operation Wildflower Program reporting to the headquarters Maintenance Section.

District Adopt-A-Highway Coordinator – The district employee having responsibility for the district administration of the Operation Wildflower Program. The district coordination of the program is shared with the District Roadside Vegetation Foreman, who both report to the District Engineer.

District Roadside Vegetation Foreman – The district employee having responsibility for approving seeding sites and determining the appropriate species for the approved sites. The district coordination of the Operation Wildflower Program is shared with the District Adopt-A-Highway Coordinator, who both report to the District Engineer.

223.2 Operation Wildflower Application

The volunteer group's contact person submits an ITD 02831, Idaho Operation Wildflower Application, to the District Adopt-A-Highway Coordinator (see [Figure 223.2](#)).

The application shall be in the form prescribed by the Director, administered by the Volunteer Services Coordinator, and contain the following information:

- The volunteer group's name.
- The name, mailing address, and telephone number of the group's contact person.
- The route and milepost of the group's adopted section.

223.3 Administration of the Operation Wildflower Program

Statewide coordination of the program will be provided by the Volunteer Services Coordinator within ITD's headquarters Maintenance Section.

The Volunteer Services Coordinator will:

- Administer the Operation Wildflower Program policies and procedures.
- Review the Operation Wildflower Program status, needs, and innovations.
- Maintain a file of the volunteer groups participating in the Operation Wildflower Program.



The Operation Wildflower Program will be administered and promoted in the districts by the District Engineers who will provide staff to serve as coordinators for the program – the District Adopt-A-Highway Coordinator.

The District Adopt-A-Highway Coordinator will:

- Furnish and review the volunteer group's application ([ITD 02831](#)) for participation in the Operation Wildflower Program.
- Coordinate proper execution and return of the Acceptance Form Letter (see [Figure 223.3-A](#)) or Denial Form Letter (see [Figure 223.3-B](#)) to the group's contact person.
- Provide the Volunteer Services Coordinator with copies of the completed and approved application ([ITD 02831](#)) (see [Figure 223.2](#)).

Figure 223.2

ITD 02831 (Rev. 5/01)



**IDAHO ADOPT-A-HIGHWAY
OPERATION WILDFLOWER APPLICATION**

PLEASE TYPE OR PRINT

Application Year _____

Adopt-A-Highway Volunteer Group _____

Contact Person _____

Address _____

City State Zip

Day Phone _____

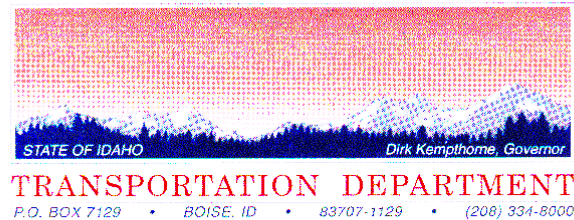
Number of Miles Adopted _____

Route # _____ Beginning Mile Post _____ Ending Mile Post _____

DISTRICT USE ONLY

☐ APPROVED ☐ NOT APPROVED

Figure 223.3-A
ACCEPTANCE FORM LETTER



Operation Wildflower

Dear Participant:

Welcome to Operation Wildflower and the Idaho Transportation Department's (ITD) increased effort to add color and plant diversity to Idaho's state highway system.

As a volunteer group through the Adopt-A-Highway program and one that takes pride and plays an extremely important role in keeping Idaho's highways and byways clean we hope that by adding a few wildflowers to your section of roadside we will improve a very successful program. Not only that, but by adding your green thumb to this new program you are assisting and enhancing ITD's goals and policy of having some form of desirable vegetation growing on Idaho's roadsides.

In order for you or your group to be successful in planting wildflowers please refer to the attached information.

1. Application with District comments.
2. Recommended site selection and planting instructions.

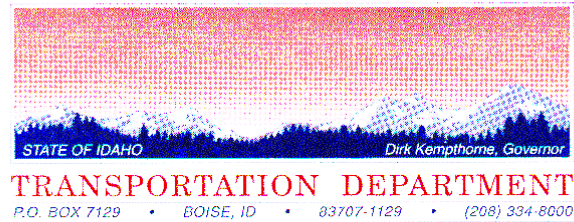
If you need additional information, contact the ITD District Adopt-A-Highway Coordinator. Other resources in your area might be University of Idaho County Extension Agents, Master Gardeners or members of local Idaho Garden Clubs.

District Adopt-A-Highway Coordinator

Date

- An Equal Opportunity Employer -

Figure 223.3-B
DENIAL FORM LETTER



Operation Wildflower

Dear Interested Participant:

Recently, you or your Adopt-A-Highway group indicated interest in participating in Operation Wildflower on your adopted section of highway.

We regret to have to inform you that the Idaho Transportation Department (ITD) cannot participate with you at this time because of the following reasons.

ITD appreciates very much your interest and desire to add a touch of color and contrast to your section of adopted highway but we all want wildflower seeding to succeed and survive.

District Adopt-A-Highway Coordinator

Date

- An Equal Opportunity Employer -

- Coordinate arrangements for furnishing the volunteer groups with:
 - ITD-approved safety vests
 - Traffic control signs
 - Wildflower seeds
 - Planting instructions
 - The appropriate number of marker flags to identify the seeding sites

The District Roadside Vegetation Foreman will:

- Review the volunteer group's application ([ITD 02831](#)) for participation in the Operation Wildflower Program.
- Determine whether the Adopt-A-Highway section, or parts of the section, qualifies for wildflower planting.
- Determine the appropriate species of wildflowers for the approved site.

223.4 General Limiting Conditions and Eligibility

Because of administrative, legislative and financial constraints, the Operation Wildflower Program shall be subject to each of the following:

- The Operation Wildflower Program may at any time and for any reason be modified in scope or altered in any other manner at the sole discretion of ITD.
- Eligibility for the Operation Wildflower Program is limited to the volunteer group's section of highway right-of-way adopted for litter pickups. At times, only partial sections may be approved for wildflower seeding.
- Only ITD-furnished seed will be allowed for planting.
- Only wildflower seed known to be adaptable to the adopted section will be furnished for planting.

223.5 Termination of the Program

The Operation Wildflower Program may at any time and for any reason be terminated at the sole discretion of ITD.

230.0 REST AREAS

Safety Rest Areas on the state highway system are established for the purpose of providing travelers with the opportunity for rest and relief from the fatigue of travel.

Rest areas should always be neat, clean, sanitary, secure, easily accessible, and should be constructed and maintained to make a favorable impression about the state of Idaho and the Department.

Rest areas receiving high usage should be kept open at all times. Those rest areas in areas of high snow fall or low usage may be closed during the winter months.

For planning and maintenance purposes, department roadside rest areas shall be classified as to level of service provided to the traveling public and to maintenance requirements.

Basic Plus: Basic Plus rest areas are appropriate for medium volume state highways where high seasonal (June, July, August) traffic averages more than 1,500 vehicles per day during summer months, but the annual traffic rate does not average more than 1,500 vehicles per day. Basic Plus safety rest areas provide basic human needs plus other amenities such as potable water, flush toilets, and picnic tables.

Deluxe: Deluxe rest areas are appropriate for high volume state or interstate highways where traffic averages more than 1,500 vehicles per day. Deluxe safety rest areas provide full service facilities and are operated exclusively by the Department.

Gateway: Gateway rest areas are located at important tourist entrances into the state. Gateway safety rest areas include all the amenities of a Deluxe rest area and provide adequate space for a staffed visitor information center.

The Department maintains only rest areas that are classified as Basic Plus, Deluxe or Gateway. Unless otherwise authorized by the Chief Engineer/State Highway Administrator or the Director, Deluxe and Gateway safety rest area(s) should include a resident caretaker who is responsible for daily maintenance activities and protection of the Department's investment.

It is expected that new rest areas in the "Basic Plus" categories may be funded and maintained through cooperative agreements with other governmental agencies, such as the U.S. Forest Service or Bureau of Land Management. Joint funding and participation with other government or private agencies may require special consideration for maintenance and management purposes of a roadside rest area. Duties and responsibilities should be defined in the cooperative agreements. It is recommended that in any joint participation the Department limit its involvement in maintenance activities to parking lots, exits and entrances. Maintenance by ITD of restrooms or grounds should be in the form of annual financial assistance.

Refer to the rest area map ([Figure 230](#)), [Board Policy B-05-14](#), and [Administrative Policy A-05-14](#) for additional information.

231.0 REST AREA MAINTENANCE

All roadside rest area maintenance, using either state forces or outside vendors, shall be reported to either activity code M411 (Building Maintenance, Operations and Building Equipment Maintenance) or M412 (Yard Maintenance).

All construction, reconstruction and rehabilitation work shall be scheduled through normal project development procedures and shall report to M621 Building and Storage Facilities-Reconstruction, Major Modification, Remodels and Improvements.

Refer to the [MOP Manual](#) for more detailed information on these activity codes and a list of building and yard numbers. When using this activity code, include the building or yard location number on all documents.

231.1 State Forces Maintenance and Repairs

Maintenance and repairs using state forces may include, but not be limited to, landscaping, masonry, plumbing, electrical, carpentry, painting, parking lot and road snow removal, weed control and pavement upkeep. Repairs and maintenance should be accomplished promptly and the quality of the work should meet the high standards of the associated trades. It should also match or complement existing finishes and reflect favorable credit to the Department. Maintenance and repairs, such as plumbing, may require that a licensed outside vendor be used.

All Maintenance personnel shall be aware of the safety precautions noted in the [Safety/Loss Control Manual, Section 2.3](#), Exposure and Infection Control, and are required to meet all OSHA requirements and standards to fulfill the level of protection for the potential exposure. Necessary personal protective equipment will be provided at no cost by ITD and be readily accessible and available in appropriate sizes. If contact with potentially infectious materials can be reasonably anticipated, ITD will provide training, testing, information, and vaccinations as appropriate for the potential exposure.



REST AREA DESIGN & LOCATION Figure 231

BASIC PLUS – a public roadside facility that is located in areas directly accessible to a low or medium volume on State or US highways. A BASIC PLUS safety rest area will provide the basic human needs to the traveling public plus furnish other amenities such as potable water, flush toilets, and picnic tables.

DELUXE – a public roadside facility that is located in areas directly accessible to a medium or high volume on State, US or interstate highways. A DELUXE rest area will include all of the amenities of a BASIC PLUS safety rest area plus vending machines, designated pet areas and traveler information.

GATEWAY – a public roadside facility that is located in areas directly accessible to a medium or high volume state, US or interstate highway and at an important tourist entrance into the state. A GATEWAY safety rest area would include all of the amenities of a DELUXE safety rest area plus adequate space for a staffed visitor information center.

PROPOSED NEW REST AREAS

MAP				APPROXIMATE	ADT
NO.	REST AREA LOCATION	DISTRICT	ROUTE	Mile Post	2002

BASIC PLUS

3	Marsing to Bruneau	3	SH-78	38	400
4	Nevada Line to Bruneau	3	SH-51	28	340
5	Idaho City to Stanley	3	SH-21	73	570
12	Boise to Lowman	3	SH-21	39	960
13	Mt. Home to Jct. SH-75	4	US-20	137	1,700
15	Camas Prairie	2	US-95	252	2,900

DELUXE

24	Round Valley Rest Area	3	US-55	102	2,900
25	Sage Junction	6	SH-33	58	2,000

GATEWAY

21	Hollister Area	4	US-93	26	4,400
23	Jct. US-95/SH-55 (Marsing)	3	US-95	26	2,100

REST AREA REHABILITATION (Expansion)

PROJECTED				APPROXIMATE	ADT
FY	REST AREA LOCATION	DISTRICT	ROUTE	M.P.	2002

BASIC PLUS

2006	Sheep Creek	2	US-95	189	2,300
2008	Mineral Mountain	2	US-95	371	2,200
*2008	Cotterell EB	4	I-84	229	6,500
*2008	US-93/Jerome WB	4	I-84	171	22,000
2009	Midvale	3	US-95	101	2,900
2010	Lenore	2	US-12	28	3,800

DELUXE

2007	Clark Hill	6	US-26	357	3,400
2020	Juniper	4	I-84	269	6,500

GATEWAY

2008	Snake River View	3	I-84	1	15,500
2015	Cherry Creek	5	I-15	7	8,600

REST AREA RECONSTRUCTION

PROJECTED				APPROXIMATE	ADT
FY	REST AREA LOCATION	DISTRICT	ROUTE	M.P.	2002

BASIC PLUS

2004	Bliss EB & WB (Upgrade to Deluxe)	4	I-84	133	13,000
2004	Inkom (Upgrade to Deluxe)	5	I-15	59	15,500
*2005	Dubois NB (Upgrade Design to Gateway)	6	I-15	167	2,900
*2005	Big Lost River (Upgrade to Deluxe)	6	US-20/26	265	1,600
2009	Blacks Creek (Upgrade to Deluxe)	3	I-84	62	21,000
2011	Timmerman (Upgrade to Deluxe)	4	US-20	178	1,700
2014	Malad Summit (Upgrade to Deluxe)	5	I-15	25	7,700
2015	Hagerman (Upgrade to Deluxe)	4	US-30	184	2,100

DELUXE

2021	Coldwater	5	I-86	19	6,400
2021	Massacre Rocks	5	I-86	31	6,400
2021	North Blackfoot/Lava Beds	5	I-15	101	18,000

GATEWAY

2009	Huetter	1	I-90	8	47,000
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* Indicates a lapse in time for projected rehabilitation or reconstruction activities. Rest Area(s) may be moved ahead of schedule or moved to reconstruction due to inadequate facilities.

231.2 Contract Maintenance and Repairs

Maintenance and repairs using outside vendors shall include, but not be limited to, contract maintenance, mechanical repairs, pest control, trash pickup, septic tank pumping, replacing/repairing hardware or plumbing fixtures, rest area security, and utility bills. Plumbing, electrical, and/or heating/air conditioning repair or servicing may require, by [Idaho Code](#), a licensed journeyman in the respective trade.

Maintenance and repairs should be accomplished promptly and the quality of the work should meet the high standards of the associated trades. It should also match or complement existing finishes and reflect favorable credit to the Department. Refer to the section on Building and Yard Operations in the [Financial Accounting Manual](#) for information on expenditures to outside vendors.

231.3 Contract Maintenance and Operation

Routine maintenance and operation of roadside rest areas contracted to outside vendors will be advertised and awarded by the Headquarters Supply Services Section using their standard procedures. A notice of letting will be issued to all registered vendors in the rest area maintenance category with specification and bid documents available through Supply Services. Advertisement will be for a minimum of two (2) weeks and the right is reserved with proper documentation and due process to reject any or all proposals, or to accept the proposal or proposals deemed best for the state of Idaho. Bid, performance, and payment bonds will be required on all rest area maintenance contracts. Contracts are awarded for two (2) years, with the option to renew for two (2) additional years, when agreed in writing by both parties.

The District office will be responsible for preparing and compiling the maintenance contract specifications. Such specifications shall include:

1. Proposal Guidelines and Scope of Work (description of the Department's requirements and expectations)
2. Exhibit I [map(s) of rest area(s) location]
Exhibit II (daily log)
Exhibit III (inspection report and maintenance checklist)
Exhibit IV (maintenance schedule)
Exhibit V (maintenance and repairs)
3. The following statement shall be included in all Rest Area Maintenance contracts:

"The Contractor shall provide at no cost to their employees training, testing, information, vaccination (if requested), and appropriate personal protective equipment in all matters relating to the human health hazards due to exposure or contact with blood-borne pathogens or diseases. The Contractor shall meet all current federal (OSHA) requirements to protect their employees from this exposure."

All specifications and provisions shall be transmitted to Headquarters Maintenance for review and Supply Services submittal.

Copies of standard maintenance contracts are available at the Headquarters Maintenance Section.

Appropriate modifications and revisions of the standard contract may be made for considerations or situations that may be unique for a district or a site.

Districts that select to exercise the "option to renew" terms of a maintenance contract, "when agreed in writing by both parties," shall process the Contract Agreement Renewal through Supply Services.

232.0 REST AREA CARE AND INSPECTION


Rest area caretakers should clean and service the rest rooms at least twice daily, preferably during early morning and afternoon hours, and more often throughout daylight hours on holidays, weekends and other days when rest area use is heavy. Caretakers should be on site during periods of time that high incidents of vandalism occur. This is usually two to three hours in the evening.

Inspection of each rest area should be carried out by designated district staff at least once a week or more often, if necessary, to assure contract compliance. The ITD-2538, Rest Area Inspection Report ([Figure 232.1](#)), shall be used. A completed copy of the inspection report (one page) is to be retained in an individual file designated for each rest area by rest area name. This procedure is to be followed for all rest areas, regardless of whether they are maintained by state forces or by a contractor. The rest area inspection report shall be kept on file during the term of the contract and retained at least five years in the district after termination of the contract.

A Rest Area Maintenance Checklist ([Figure 232.2](#)) shall be posted in each rest area mechanical/storage room for caretaker and inspection reference. The Rest Area Maintenance Checklist describes the task or job to be performed and the minimum results expected by the Department.

233.0 REST AREA CLOSURE

Rest areas will be closed while construction, reconstruction or refurbishment is taking place or whenever the use of primary services such as power, water, or toilets are interrupted. Each rest area should have closure signs available and be properly signed when closure is required.

Closure signs on the interstate system, and for other rest areas which are signed with major guide signs constructed from extruded aluminum panels, shall be orange and black in color and be capable of being placed on already existing rest area signs. Signs D5-1A (Rest Area 1 Mile), D5-6 (Rest Area Next Right) and D5-2A (Rest Area ) preceding the rest area to be closed shall be retrofitted with reader board

track to accommodate new "CLOSED" signs made of .063 sheeted aluminum at the central sign shop. A change pole that extends to 18 ft. (5.5 m) with a double suction cup head will make installation of the closure signs easier, especially with hard to access signs. Refer to [Figures 233.1](#), [233.2](#), [233.3](#) and [233.4](#) for instructions and information on installing the new rest area "CLOSED" signs. Any questions relating to the new signing procedure should be directed to Headquarters Traffic.

Closure signs for rest areas not using the standard interstate signs shall be black and orange in color and similar in size and appearance to the standard "Road Work Ahead" signs. Rest areas accessible by interchange or in conjunction with weigh stations shall be signed for closure in a manner that gives proper advance notification to the traveling public.

All additional rest area signs approaching the closed rest area and at the entrance to the rest area shall display a "CLOSED" sign. Barriers should be placed at the entrance to the rest area to be closed with a sign showing distance to the next available services.

Example: Closed For Repairs (Winter)
 Available Services
 Post Falls 4 miles (6.5 km)

When rest areas are temporarily closed due to interruption of primary services, every attempt should be made to keep the parking lot open and to provide restroom facilities (portable toilets) to serve the traveling public.

If the rest area closure should last more than 48 hours, then a "CLOSED" sign should be hung on the sign at the preceding rest area if the distance to the closed rest area is provided.

234.0 REST AREA VENDING

Rest Area vending privileges are the exclusive right of the Idaho Commission for the Blind and Visually Impaired (ICBVI). A cooperative agreement has been signed between the Department and ICBVI defining assigned responsibilities for vending purposes. Authority for this cooperative agreement is derived from both federal and [Idaho Code](#).

ICBVI through their business enterprise program will make arrangements for placement of the vending machines to dispense such items as packaged food, candy bars, soft drinks, coffee and newspapers. ICBVI is responsible for service and maintenance of the vending machines and must obtain a right-of-way use permit from the respective district.

Figure 232.1
REST AREA INSPECTION REPORT (ITD-2538)

Roadside Rest Areas And Ports of Entry Maintenance Inspection Report					
<div style="display: flex; justify-content: space-between; align-items: center;"> ITD 2538 (Rev. 6-03) </div>					
Date Inspected		Time Inspected		Rating 1 or below - Poor or very poor 2 - Needs Improvement 3 - Good* 4 - Very Good* NA - Not Applicable	
Facility Name/District		Contractor Name/Representative			
Department Representative		Inspected By			
*Meets Performance Standards					
	Item	Facilities	Rating	Comments	
Grounds	1	Driveways - Parking Lots			
	2	Sidewalks			
	3	Garbage Containers			
	4	Trees, Shrubs, Lawn	Maintained and Clean No Insects, Disease, Weeds		
	5	Natural Areas			
	6	Wildflower Beds			
	7	Grassy Areas (Pet Areas)			
	8	Irrigation System			
	9	Gravel or Other Blanketed Areas			
	10	Picnic Tables, Arbors			
	11	Information Signs/Kiosk			
	12	Drinking Fountain			
	13	Cigarette Butt Receptacles			
Section Average _____					
Building Exterior	14	Outside Walls			
	15	Windows and Doors			
	16	Eaves			
	17	Light Fixtures			
	18	Public Telephones			
Section Average _____					
Building Interior	19	Partitions		Men's	Women's
	20	Urinals			
	21	Toilet Stools and Seats			
	22	Sinks and Mirrors			
	23	Soap Dispenser and Hand Dryers			
	24	Toilet Paper/Toilet Seat Covers			
	25	Floors, Walls, and Ceiling			
	26	Inside Windows and Doors			
	27	Heating - Air Exchange			
	28	Rest Room Lighting and Sky Lights			
Section Average _____					
Utility/Custodial	29	Utility/Storage Room			
	30	High Pressure Wash/Steam Clean			
	31	Sewer/Plumbing System			
	32	Caretaker Residence			
	33	Custodian's Appearance - Uniform			
	34	Record Keeping/Daily Log			
Section Average _____					
Overall Rating 					
Additional Comments _____					

Figure 232.2
REST AREA MAINTENANCE CHECKLIST

REST AREA MAINTENANCE CHECK LIST				
Frequency Key:	Low use Periods(s)	Spring , Fall, Winter		
	High use period(s)	Summer		
H = 2 x day	T = 3 x week	S = 2 x month	C = 2 x year	
D = daily	F = 4 x week	M = monthly	E = 3 x year	
B = 2 x week	W = weekly	A = as needed	NA = not applicable	
1 = Monday	3 = Wednesday	5 = Friday	7 = Sunday	
2 = Tuesday	4 = Thursday	6 = Saturday		
Example: Clean Sinks H/A -- translates to tw ice per day, more often as needed				
Task - Facilities		Performance Standard (3) Rating		Frequency
				low use high use
Grounds				
<u>1. Driveways - Parking Lots</u>		Parking lots and driveways shall be clean of all debris and litter. Curbs and gutters must be clean.		
Pick up and dispose of all litter. Sweep and clean curbs and gutters.				D D/A
<u>2. Side Walks</u>		Sidewalks shall be kept clean of all spills, dust, dirt, sand, snow or ice.		
Sweep and clean sidewalks. Wash off spilled food, drinks, dirt, sand. Remove snow and ice.				D D/A
<u>3. Garbage Containers</u>		All garbage containers shall be maintained clean and free of dirt and grime. All garbage bags shall be replaced as often as necessary to prevent overflow.		
Check and replace garbage bags daily to prevent overflow or unsanitary conditions.				D H/A
Check and clean garbage container and lids.				
<u>4. Trees / Shrubs / Lawns</u>		All lawns, trees, shrubs and landscaped areas shall have a neat, healthy and well-maintained appearance. There shall be no visible signs of weeds or any insect or disease damage. These areas will be picked up at all times and trash and debris will be properly disposed of.		
Fertilize lawns, trees, and shrubs as scheduled.				M/A W/A
Control undesirable weeds in lawns and/or other areas as required. Prune trees and shrubs as required. Edge lawns, curbs, and sidewalks as required. Trees, shrubs, and lawns shall be treated when they show symptoms of insect or disease.				
Consult with experts.				
<u>5. Natural Areas / Lawns</u>		Native habitats/areas shall be preserved and enhanced. All natural areas and lawns shall be free of debris, litter and trash.		
Pick up and dispose of all debris, litter and trash in natural areas and lawns.				D D
Control and treat all noxious weeds and remove any undesirable weeds.		All noxious weeds shall be controlled.		
<u>6. Wildflower Beds</u>		Wildflower beds and planted areas shall be preserved and maintained to enhance the rest area. Wildflower beds shall be free of all litter & trash. All noxious weeds shall be controlled.		
Pick up and dispose of all litter and trash.				D D
Control and treat all noxious weeds and remove any undesirable weedy species.				
<u>7. Grassy Areas (Pet Areas)</u>		All grassy (pet) areas shall be neat and clean and free of any litter and trash, including pet waste.		
Pick up and dispose of all litter, trash and pet waste.				W/A W/A
<u>8. Irrigation System</u>		The lawn shall appear green, healthy, and well maintained & be irrigated on a regular basis.		
Monitor and service irrigation system controllers to assure that timely and proper coverage of irrigation water is taking place. Replace and/or repair sprinkler heads and broken lines as required.				W/A W/A
<u>9. Gravel or Other Blanketed Areas</u>		All graveled or blanketed areas shall be neat and free of any litter and trash.		
Keep gravel areas clean. Pick up and dispose of all trash and litter. Keep area properly covered with material.				A A

Figure 232.2(Contd)

Task - Facilities	Performance Standard (3) Rating	Frequency	
		low use	high use
Grounds (cont.)			
<u>10. Picnic Tables / Arbors</u>			
Clean and scrub all table tops and benches with soap and water that will clean and sanitize. Wash all arbor components (ceilings, walls & posts) as required. Wipe dry. Remove all graffiti immediately.	All picnic tables, arbors and floors shall be clean and the area free of trash and litter. Cobwebs and graffiti shall be removed. No graffiti will be visible.	D/A	H/A
<u>11. Information Signs / Kiosk</u>			
Clean and wash Plexi-glass with soap and water. Wipe clean. Sweep down all cobwebs and dust. Pick up and dispose of all trash and litter. Clean benches with soap and water. Rinse and wipe them dry.	Information signs must be clean and free of cobwebs, litter and graffiti. All frames and displays must be in good shape. Report if displays need attention or repair.	D/A	D/A
<u>12. Drinking Fountain</u>			
Clean entire drinking fountain with antibacterial disinfectant. Wash with soap and water. Rinse and wipe dry. Check faucet for leaks and proper operation.	Drinking fountain shall be operating properly and all surfaces shall be clean and sanitary.	D/A	H/A
<u>13. Cigarette Butt Receptacles</u>			
Clean tobacco butt receptacles twice daily. Remove and dispose of all tobacco butts and trash. Replace sand as required.	All tobacco butt receptacles shall be neat and clean.	H	H
Building Exterior			
<u>14. Outside Walls</u>			
Clean walls and corners and wipe down cobwebs. Remove all graffiti immediately. Keep gutters free of debris, leaves and pine needles.	Building exterior shall have a neat and clean appearance and be free of cobwebs, dirt and grime.	W/A	W/A
<u>15. Windows & Doors</u>			
Clean all windows and doors daily. Remove all cobwebs, dead insects, debris and dirt.	Windows & doors shall have a neat and clean appearance, free of water spots, cobwebs, dirt, and grime.	D/A	D/A
<u>16. Eaves</u>			
Clean under eaves and in corners and wipe down all cobwebs and insects.	Building exterior shall have a neat and clean appearance and be free of cobwebs, dirt and insects.	W/A	W/A
<u>17. Exterior Lights & Fixtures</u>			
Clean all lights and light fixtures with a damp cloth. Remove all cobwebs and dead insects and clean lens. Replace burnt out bulbs immediately.	All lights shall be clean and free of cobwebs.	W/A	D/A
<u>18. Public Telephones</u>			
Clean and sanitize public telephones/booths once per day. Report operational problems to telephone company and Department.	All public telephones/booths shall be neat, clean, and free of stains and fingerprints. Report trouble to telephone company and Department.	D	D
Building Interior			
<u>19. Partitions</u>			
Clean all partition walls using soap and water with disinfectant. Rinse and wipe dry. Remove all graffiti. Make sure doors operate and lock properly. Check to make sure walls are sturdy and not damaged.	Partitions shall be clean and well maintained and free of dirt, grime and graffiti. All doors and fixtures shall operate properly.	H/A	H/A

Figure 232.2(Contd)

Task - Facilities	Performance Standard (3) Rating	Frequency	
		low use	high use
Building Interior (cont.)			
20. Urinals			
Clean and thoroughly scrub with high-strength detergent containing a deodorant and anti-bacterial agent. Rinse with clean water and wipe dry. Check to see if urinals flush properly. Check and replace odor blocks.	All surfaces, including exterior of urinal and exposed plumbing, shall be clean and free of dust, grime, stains, and finger prints.	H/A	H/A
21. Toilet Stools & Seats			
Clean and thoroughly scrub with a high-strength detergent containing a deodorant and anti-bacterial agent. Rinse with clean water and wipe dry. Check to see if toilets flush properly and seats operate properly.	All surfaces, including exterior of toilet stool and exposed plumbing and seats, shall be clean and free of dust, dirt, grime, stains and fingerprints. Toilets shall be maintained odor-free.	H/A	H/A
22. Sinks & Mirrors			
Clean and thoroughly scrub with a high-strength detergent containing a deodorant and anti-bacterial agent. Rinse with clean water and wipe dry. Check to see if all faucets and drains operate properly. Remove all graffiti.	All surfaces, including mirror and exterior of sink shall be clean and free of dust, grime, stains and fingerprints. Faucets and drains shall operate properly. No Graffiti will be present or visible.	H/A	H/A
23. Soap Dispensers & Hand Dryers			
Clean and thoroughly scrub with a high strength detergent containing a deodorant and anti-bacterial agent. Rinse and wipe dry. Check to see if soap dispensers and hand dryers operate safely and properly. Make sure soap dispensers have adequate supply of soap.	All hand dryer and soap dispenser surfaces shall be clean and free of all dust, dirt, grime, stains and fingerprints. Hand dryers shall operate safely and properly at all times. Soap dispensers shall have adequate supply of soap.	H/A	H/A
24. Toilet Paper / Toilet Seat Covers			
Wipe the exterior finish of the toilet paper and toilet seat cover dispensers with a damp cloth. Check to make sure adequate supplies of toilet paper and toilet seat covers are present in the dispensers. At least one-half roll of biodegradable toilet paper shall be in evidence in each stall.	Toilet paper and toilet seat covers shall be available at all times and never run out.	H/A	H/A
25. Floors, Walls, & Ceiling			
Clean and thoroughly scrub with a high strength detergent containing a deodorant and antibacterial agent. Rinse and mop dry floors. Check to make sure floor drains operate properly and disinfect traps. Sweep down all cobwebs and remove graffiti.	Floors, especially next to mop boards and corners, shall be free of dirt and grime. Walls and ceilings, especially in the corners, shall be free of cobwebs, dirt, grime and graffiti.	D/A	H/A
26. Interior Windows & Doors			
Windows and doors shall be pressure washed and cleaned weekly. Daily spot clean as needed.	Windows and doors shall be clear and have a smear-free and grim-free appearance. Windows shall be free of water spots.	W/A	D/A
27. Heating - Air Exchange			
Check all grills and vents to assure adequate air movement and cleanliness. Check operation of odor suppressants.	All grills and vents shall be free of lint and/or obstructions. Odor suppressants shall be present and operational.	W/A	W/A
28. Rest Room Lighting / Sky Lights			
Clean all light fixtures with a damp cloth. Remove all cobwebs and dead insects and clean lens. Replace bulbs immediately when burnt out.	All lights shall be clean and free of cobwebs.	D	D

Figure 232.2(Contd)

Task - Facilities	Performance Standard (3) Rating	Frequency	
		low use	high use
Utility / Custodial			
<u>29. Utility / Storage Room</u>			
Keep utility/storage room clean, organized and free of litter. Keep up-to-date MSDS sheets on all cleaning products in a visible place and easily accessible in case of emergency. Check fire extinguishers and first aid kits.	All utility/storage rooms shall be free of clutter, dirt and cobwebs. Fire extinguisher and first aid kits shall be full and properly equipped in case of emergency.	W	W
<u>30. High Pressure Wash / Steam Clean</u>			
Use high pressure washer or steam cleaner to thoroughly wash down walls, partitions, stools, urinals, sinks, and floors to remove stains, dirt, and grime.	High pressure washing or steam cleaning may be necessary to sterilize, disinfect, and thoroughly clean rest rooms. This cleaning shall be done at low-use periods as scheduled.	S	S
<u>31. Sewer / Plumbing System</u>			
Monitor level of solids in septic tank(s) and pump if necessary or as needed. Uncover and recover lids and sign appropriately to provide safety to rest area users. Check sewer lagoons to detect possible problems. Report all sewer odors.	Inspect to insure the system is operating properly and to avoid costly breakdowns or rest area closure. Report any sewer odors or problems involving the sewage system immediately.	M	W
<u>32. Caretaker Residence</u>			
Irrigate and mow lawns and landscaping to provide well kept appearance. Pick up and dispose of all trash and debris. Keep interior clean and free of damage.	The exterior of the caretaker residence shall be neat and clean, with well-maintained yard and landscaping. No clutter or trash will be left laying around. Interior must be free of damage.	S/A	W/A
<u>33. Caretaker Appearance - Uniform</u>			
The caretaker shall wear a uniform provided by the contractor while on work duty. The caretaker shall wear an identification badge that contains contractor and employee names.	Caretaker and contractor employees shall be neat and clean at all times. Employees shall be friendly and courteous to rest area users. Employees shall wear identification badges at all times while working within rest area complex.	A	A
<u>34. Record Keeping / Daily Log / Time Clock</u>			
The caretaker shall check in and out using time clock. Keep a daily log listing activities completed and supplies used. Enter unusual or required information (i.e., traffic counts, lost and found articles, accidents, vandalism). Keep the daily log in the mechanical room.	Daily time sheet, logs and records shall be maintained daily and available for Department inspection. Daily time sheet, log and records shall be delivered monthly to the Department.	D	D

Figure 233.1
REST AREA ALUMINUM READER BOARDS

Instructions for installing and using rest area "CLOSED" signs.

RE: [Figures 233.2, 233.3, and 233.4](#)

Reader board track comes as a universal track. Obtain 1 1/2 inches (38 mm) for the top track and 1/2 inch (13 mm) for the bottom track. Cut off the side of the track that is not used. The overall outside measurements in the referenced drawings were taken after the unused portion of the track was cut off.

A spacer must be placed under the reader board track before it is pop riveted (using colored rivets) to the sign face. The thickness of the spacer will be determined by the thickness of the lettering, either high intensity or button copy, that the "CLOSED" panels will be placed over.

Obtain an aluminum change pole capable of extending out to a maximum length of 18 feet (5.5 m). A change pole should be available at each rest area where the reader board track is used to secure the "CLOSED" signs.

The central sign shop will produce the "CLOSED" signs using .063 sheet aluminum and the standard "E" modified lettering for interstate signs.

The approximate cost of the reader board track is \$1.00 per linear foot, the change pole and double suction cup head \$80.00, and the "CLOSED" signs \$80.00 per sign.

Figure 233.2

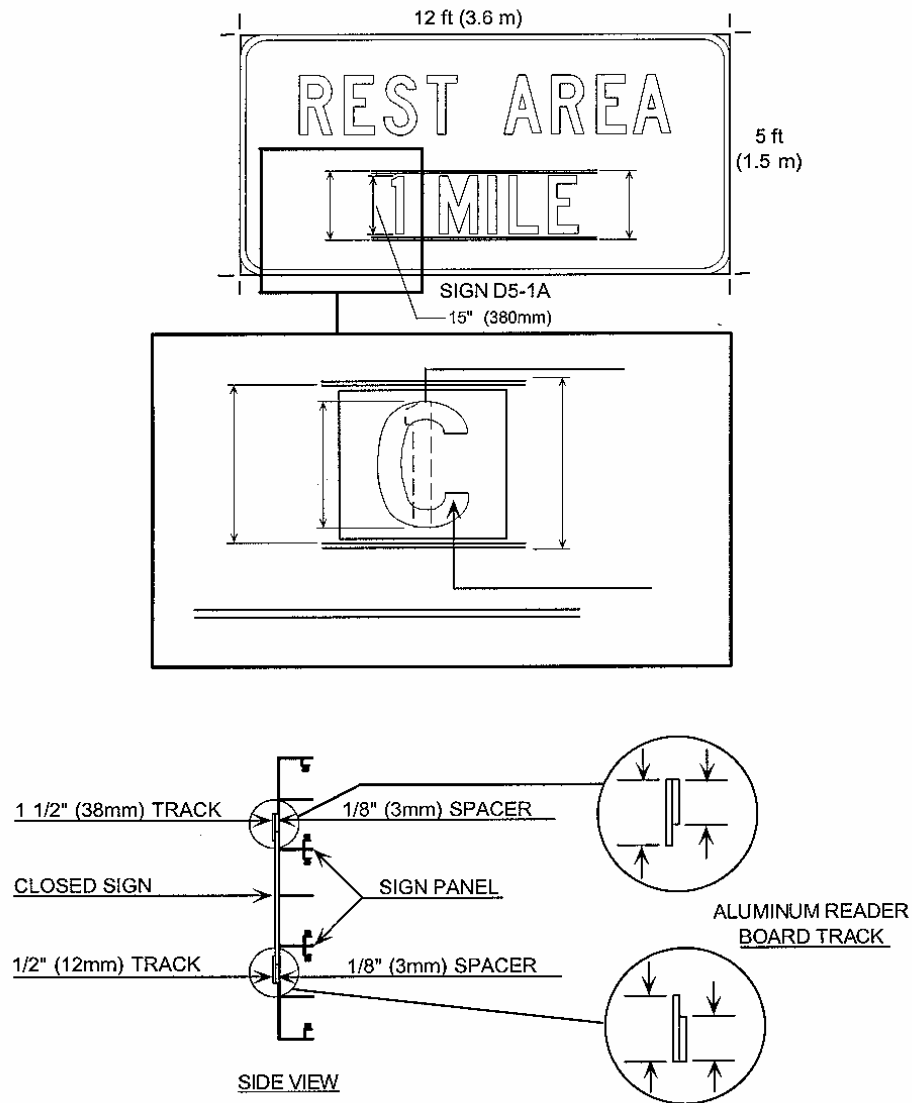


Figure 233.3

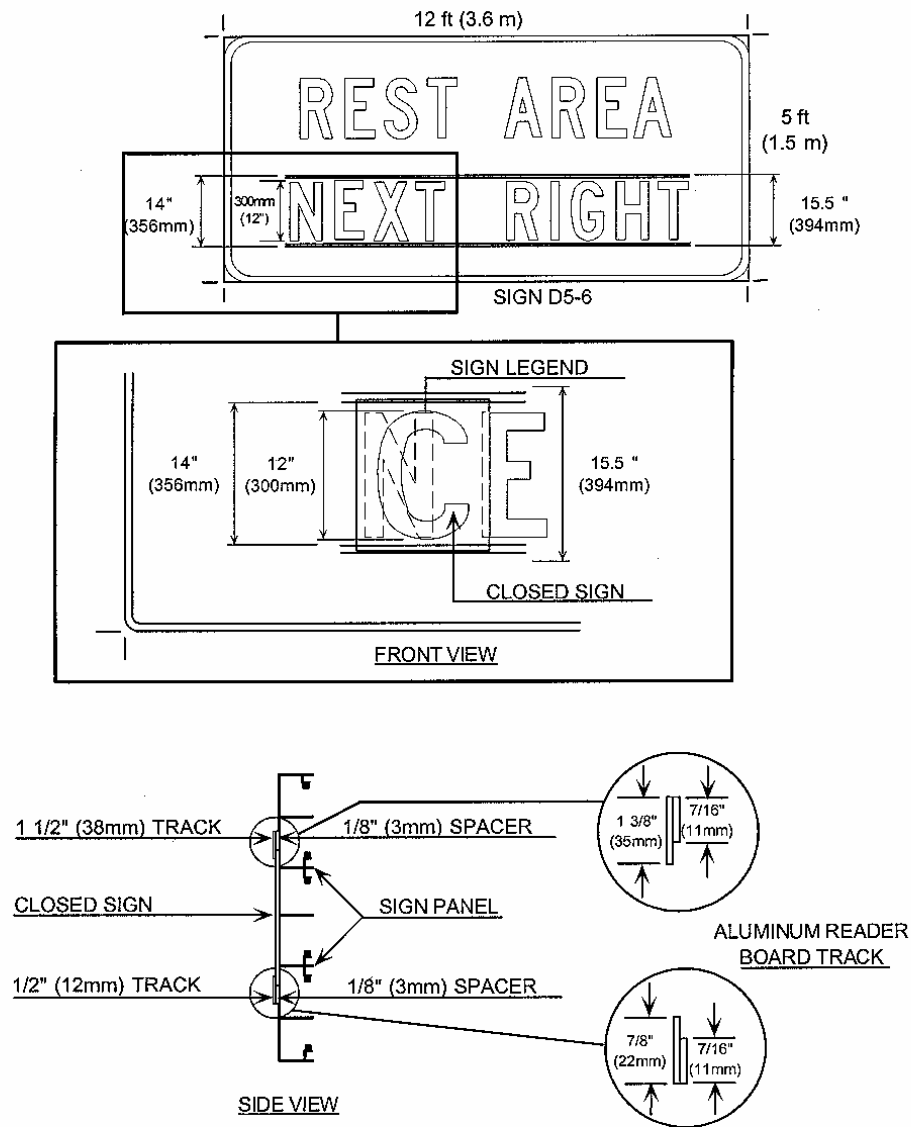
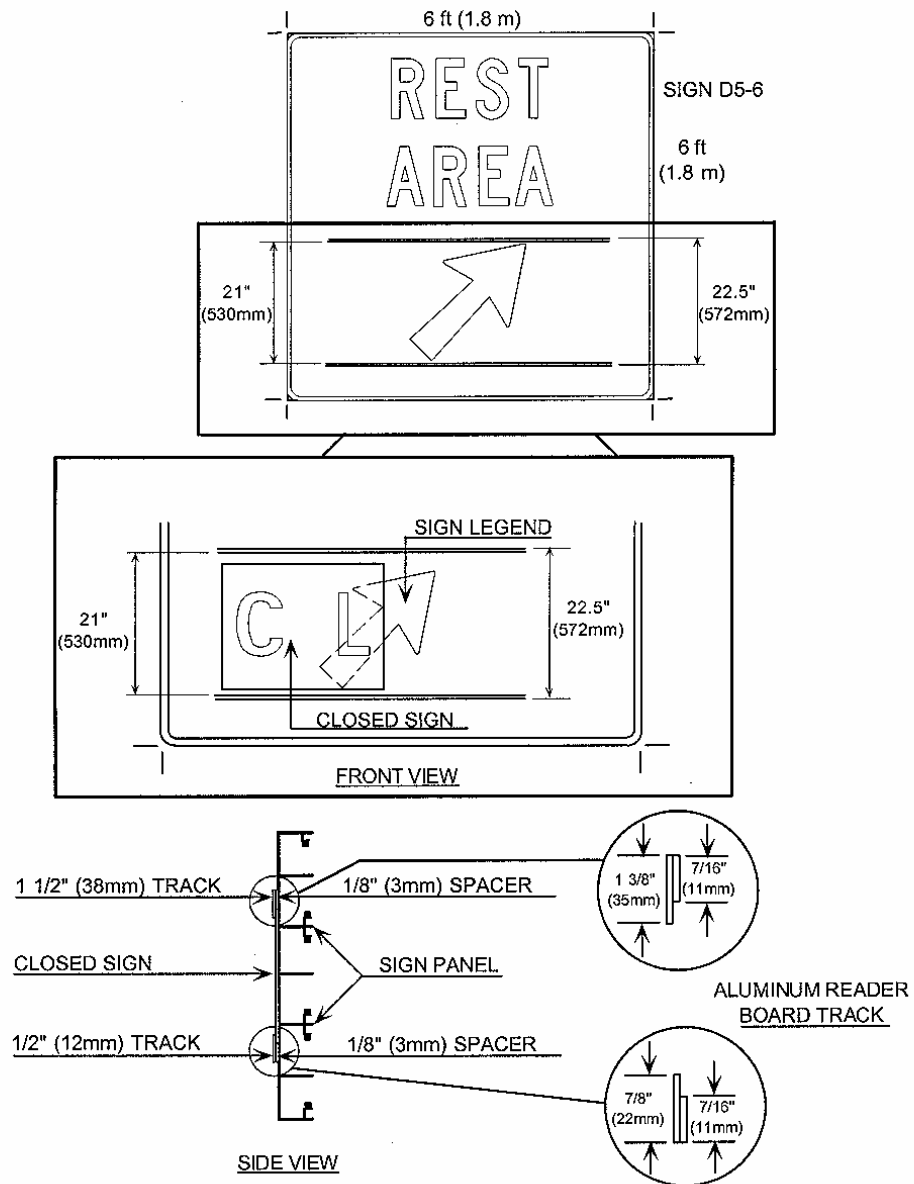


Figure 233.4



The district shall determine the number, kind and location of the vending machines on the right-of-way use permit. The district shall provide electrical service and provide for and maintain a specified location for placement of the vending machines.

The Department allows non-profit groups to dispense free refreshments to the traveling public. To avoid conflict or confusion between ICBVI with vending privileges and non-profit groups dispensing free refreshments, refer to and become familiar with the REST AREA ACTIVITIES PROGRAM, Section 240 in the Maintenance Manual.

For additional information, refer to the cooperative agreement between the Idaho Transportation Department and the Idaho Commission for the Blind and Visually Impaired. Copies may be obtained from Headquarters Maintenance.

235.0 RULES GOVERNING SAFETY REST AREAS

Under the authority of *Idaho Code 40-312*, the Idaho Transportation Board has adopted rules governing safety rest areas (refer to [Figure 235.1](#)). These rules shall be posted in a visible location (preferably on the rest area building) within the rest area complex. Even though the rules do not cover every incident that may take place within the rest area, they can be a good reference to discourage most acts of misconduct or activity.

Additional rules relating to rest area activities can be found in ITD's Access Management: Standards and Procedures for Highway Right-of-Way Encroachments (see [Subsection 1.4, Prohibited Activities and Encroachments](#)).

Signs for posting these rules in rest areas can be obtained and installed through District Traffic.

236.0 TURNOUTS

Roadside areas immediately adjacent to state highways may be utilized by vehicles for purposes of short-term parking. Some of these areas can be classified as scenic overlooks, grass slopes or small roadside parks, or just wide spots in the road. All of these roadside areas should be treated as an extension of the mainline roadway.

Figure 235.1
IDAPA 39
TITLE 03
CHAPTER 50

39.03.50 - RULES GOVERNING SAFETY REST AREAS

000. LEGAL AUTHORITY.

Under the authority of [Section 40-312, Idaho Code](#), the Idaho Transportation Board adopts this rule. (12-26-90)

001. TITLE AND SCOPE.

The purpose of this rule is to regulate use of and set standards of behavior for all persons using or visiting developed rest areas. (12-26-90)

002. -- 099. (RESERVED).

100. SANITATION.

The following acts are prohibited: (12-26-90)

01. Designated Trash Containers. Failing to dispose of all garbage and trash, including paper, cans, bottles and other waste materials by either removal from the site or depositing in designated trash containers. (12-26-90)

02. Vehicle Refuse Or Water. Draining or dumping refuse or waste from any trailer or other vehicle except in places or receptacles provided. (12-26-90)

03. Water Facilities. Cleaning fish or other food, washing clothing or household articles at hydrants or water faucets. (12-26-90)

04. Water Systems. Polluting or contaminating water used for human consumption or water systems used for the delivery of such water. (12-26-90)

05. Comfort Station. Depositing body waste in or on any portion of a comfort station not intended for that purpose. (12-26-90)

06. Dumping. Dumping of household or commercial garbage or trash brought as such from private property into refuse containers or other refuse facilities.(12-26-90)

101. -- 199. (RESERVED).

200. PUBLIC BEHAVIOR AND TREATMENT OF PUBLIC PROPERTY.

The following acts are prohibited: (12-26-90)

01. Behavior. Indulging in boisterous, abusive, threatening, or indecent conduct or

creating unnecessary noise which interferes with the reasonable use of the area by other visitors.

(12-26-90)

- 02. Treatment Of Natural Features Or Plants.** Destroying, defacing, cutting, sampling, or removing any natural feature or plant. (12-26-90)
- 03. Treatment Of Public Property.** Damaging by defacing, plugging, breaking, or removing any facility, fixture, sign or marker provided for use of the public.(12-26-90)
- 04. Soliciting.** Selling or offering for sale any merchandise. (12-26-90)
- 05. Firearms/Fireworks.** Discharging firearms or fireworks. (12-26-90)
- 06. Noise Producing Devices.** Operating or using any audio devices, including radio, television and musical instrument, and other noise producing devices, such as electrical generator plants and equipment driven by motors or engines, in such a manner and at such times so as to disturb other persons. (12-26-90)

201. -- 299. (RESERVED).

300. OCCUPANCY OF DEVELOPED REST AREAS.

The following acts are prohibited: (12-26-90)

- 01. Occupancy Of Site.** Occupying a site for any primary purpose other than resting and refreshing of travelers from the fatigue of travel. (12-26-90)
- 02. Assembling.** Assembling or attracting groups of people except for public service functions by civic, fraternal or religious organizations as approved by the Department. (12-26-90)
- 03. Time Limits.** Remaining in a rest area for a period of time longer than that established by the Idaho Transportation Department. Occupancy of the rest areas on interstate highways is limited to eight (8) consecutive hours. Occupancy of rest areas on other routes of the State Highway System is limited to sixteen (16) consecutive hours. (12-26-90)
- 04. Fires.** Building fires outside of stoves, grills or fireplaces. (12-26-90)
- 05. Failure To Clean.** Failing to clean the place occupied before departing.(12-26-90)
- 06. Animals.** (12-26-90)
 - a. Bringing a dog, cat or other animal into a rest area unless it is crated, caged, leashed or otherwise under physical restrictive control at all times. (12-26-90)
 - b. Permitting a dog, cat or other animal to exercise and/or defecate in areas not

signed for such purpose. (12-26-90)

301. -- 399. (RESERVED).

400. VEHICLES.

The following acts are prohibited: (12-26-90)

01. Rates Of Speed. Driving motor vehicles at excessive rates of speed. (12-26-90)

02. Driving Or Parking. Driving or parking a vehicle or trailer except in places developed for such purpose. (12-26-90)

03. Careless Driving. Driving a vehicle carelessly and heedlessly in disregard of the rights or safety of others; or driving at a speed, or in a manner which endangers, or is likely to endanger, any person or property. (12-26-90)

04. Motorbikes/Motorcycles. Driving motorbikes and motorcycles on trails within developed rest areas.

05. Roads In Rest Areas. Driving motorbikes, motorcycles, or other motor vehicles on roads in developed rest areas for any purpose other than entering or leaving the area. (12-26-90)

06. Accelerating Engine. Excessively accelerating the engine of a motor vehicle or motorcycle when such vehicle is not moving or is approaching or leaving a stopping place. (12-26-90)

401. -- 999. (RESERVED).

240.0 REST AREA ACTIVITIES PROGRAM

The rest area activities program allows nonprofit groups to dispense free refreshments to the motoring public for the purpose of providing a period of relaxation and improving highway safety.

240.1 Definitions

Rest Area Activities Chairperson - Individual appointed or selected by the group to serve as spokesperson.

Rest Area Activities Program - The rest area program of the Department to assist in comfort and safety of the motoring public.

Rest Area - Name of rest area approved by the District Engineer for the free dispensing of refreshments by the group. For the purpose of this program, dual rest area facilities separated by a section of highway will be considered as individual facilities, and separate applications must be submitted for each facility.

Refreshments - Hot or cold nonalcoholic/noncarbonated beverages, doughnuts and cookies.

Board - The Idaho Transportation Board.

Director - The Director of the Idaho Transportation Department.

District - One of the six districts of the Department having the responsibility of administering the rest area activities program.

District Engineer - The chief executive officer in charge of a district of the Department.

Rest Area Foreman - The state employee in charge of rest area maintenance.

Caretaker - The contracted, on site, individual responsible for providing cleanup and care of the rest area.

Group - Members of nonprofit organizations who have requested to participate in the rest area activities program.

240.2 Participation in Rest Area Activities Program

Members of nonprofit organizations may, upon approval by the Department, provide free refreshments in rest areas under such terms and conditions as may be duly promulgated under the authority of the Board.

No person or group shall be denied the opportunity to participate in this program because of their age, race, sex, color, or national origin.

Any group or organization that promotes racial or religious intolerance or harassment shall not be eligible to participate in the volunteer program.

The volunteer groups will not be allowed to dispense organizational, political, or any other type of literature, with the exception of tourist information such as city, county, or state road maps, cafe and hotel accommodations.

240.3 Application

The Rest Area Activities Chairperson shall submit an [ITD 0052 Rest Area Activities Program Application \(Figure 240.3\)](#) to the appropriate District Engineer on or before January 1st of each year. Applications will be approved on a first come/first serve basis. In the event more than one organization requests the same day, a blind drawing will be held to make a selection. Only one initial reservation is allowed each year. Additional applications may be made if no other organization has applied for the designated days. ITD may restrict reservations to only one initial holiday weekend reservation each year. Additional applications may be made for non-holiday weekends.

240.4 Agreement

If the application is approved, the Rest Area Activities Chairperson shall complete ITD 2887 [Rest Area Activities Program, Agreement Terms and Conditions \(See Figure 240.4\)](#). Agreements issued to a subgroup of a volunteer group will be considered to be issued to a parent group. The parent group is responsible and liable for any damages caused by the subgroup. Agreements are non-transferable.

240.5 Responsibilities of Group and Department

Groups that participate in the rest area activities program are subject to the responsibilities listed on the Rest Area Activities Program, Agreement Terms and Conditions and are required to complete the Volunteer Release of Liability (see [Figure 240.5 & Figure 240.5A](#)).

The Department's participation in the rest area activities program shall include:

- The Department will determine if the dispensing of free refreshments is compatible with Department property, the motoring public, and the safety of the group.
- The Department will determine if the rest area can accommodate the requested activity.
- The Department will inform the group of allowable dispensing locations, vehicle parking areas, electric and water connections, storage areas, and all restrictions that may apply.

- The Department will furnish informational signs prior to the scheduled activity. The group will set up signs prior to the scheduled activity, and remove and return the signs after completion.

Figure 240.3



ITD 0052 (Rev. 5-03)		Rest Area Activities Program Application		
		Idaho Transportation Department		
Please type or print all requested information.				
Volunteer Group Information				
Group Name				
Tax Exempt Number			501(c)-3 Status	
Address				
Rest Area Activities Chairperson				
Daytime Phone			Email	
Address				
Rest Area Information				
Rest Area Name				
<input type="checkbox"/> East Bound <input type="checkbox"/> West Bound <input type="checkbox"/> North Bound <input type="checkbox"/> South Bound				
Dates Requested (1-3 continuous days)			Alternate Dates	
From - - To - -			From - - To - -	
Hours of Operation (daylight to dark minimum)			Number of Volunteers working at one time	
From a.m. To p.m.				
Rest Area Activities Chairperson's Signature				Date
District Approval				Date
Department Use Only				

Figure 240.4

ITD 2887 (Rev. 5-03)	Rest Area Activities Program Agreement Terms and Conditions Idaho Transportation Department	
----------------------	---	---

Volunteer Group Name	Rest Area
Activity Date(s) From -- To --	Activity Times From a.m. To p.m.

The Idaho Transportation Department (ITD) agrees to permit the volunteer group to dispense free refreshments at this Rest Area for the above stated period of time.

The volunteer group agrees to the following terms and conditions.

1. The volunteer group must be recognized as a 501(c)-3 nonprofit organization.
2. Group members shall be required to sign a release form before participating in any refreshment dispensing activities.
3. The volunteer group shall be responsible for prohibiting members from either possessing or consuming alcoholic beverages or illegal drugs during group activities.
4. Refreshment serving is to be conducted for improving the safety of the traveling public.
5. Refreshments will be limited to hot or cold, non-alcoholic, non-carbonated beverages, donuts and cookies. All services and refreshments offered must be free of charge.
6. Only one initial reservation is allowed each year. Additional applications may be made if no other organization has applied for designated days. ITD may restrict reservations to only one initial holiday weekend reservation each year. Additional applications may be made for non-holiday weekends.
7. A single agreement to dispense refreshments may be issued for up to three continuous days.
8. A copy of this agreement must be posted during group activities.
9. Agreements issued to a subgroup of a volunteer group will be considered to be issued to the parent group. The parent group is responsible and liable for any damages caused by the subgroup. Agreements are nontransferable.
10. A minimum of daylight to dark schedule each day of operation is required.
11. A responsible adult representative of the group, 21 years of age or older, shall be on the premises during all group activities.
12. Failure of a group to dispense refreshments or to notify the issuing office of ITD of a cancellation at least one week prior to the date of the agreement may result in suspension of eligibility for future agreements.
13. The volunteer group may have two (2) signs at the dispensing site showing the service and the group's name. For example, "Free refreshments, Compliments of (*Your Group Name*)". The maximum size of these signs shall be 18" x 24".
14. Signs will not be posted, or attachments of any kind be made, to any buildings, trimmings, or facilities. Volunteer groups will be responsible for any repair costs resulting from noncompliance.
15. When a Visitors Information Center is present, the public's requests for information and products will be referred to the Visitors Information Center. Volunteer group members will not remove materials from the Visitors Information Center.
16. One opaque container, with the word "Contributions" or "Donations" in letters no larger than 2" high will be allowed. All other solicitations of contributions and donations are forbidden. State law prohibits sales by item except for the vending of products by the Idaho Commission for the Blind and Visually Impaired (ICBI).
17. All supplies not in immediate use must be stored out of sight. No use of any building for storage will be allowed. Visible supplies must be kept and maintained in an orderly and neat manner.

18. Refreshment serving is to be carried out solely within the rest area as directed and approved by ITD personnel. Camping type vehicles such as pickup campers, travel trailers or motor homes will not be used for dispensing refreshments. The activity, including serving from a self-contained dispensing vehicle, must take place free from any ramp or surface used for the movement of pedestrians or vehicles and must not block or hinder access to restrooms or vending machines provided by ICBI.
19. Water will be obtained from outside building faucets or as directed by ITD personnel.
20. Electrical power may not be furnished by ITD. If power is furnished each 20 amp circuit (2200 watts) designated for use by the group shall be provided a ground fault interrupter. If power is lost, the "reset" button located next to the "test" button in the center of the receptacle shall be pressed. If electrical power is not restored, the on-duty Rest Area Caretaker will be advised, if available. If power is restored by pressing the "reset" button and the circuit continues to fail when put to use, an improper extension cord or faulty appliance may be the cause. No interior building outlets will be utilized. Not all buildings have exterior outlets. In this case, the group is responsible for furnishing an appropriate power source for their appliances.

Electric Power <input type="checkbox"/> Is <input type="checkbox"/> Is Not Available At This Rest Area.

21. Volunteer groups will furnish their own supplies and cleaning equipment. Groups must remove debris from the rest area grounds and leave the restrooms neat and clean. All debris associated with the dispensing of refreshments is to be put into plastic bags. The bags shall be tied and placed in garbage containers or removed from the rest area grounds. If garbage containers are full, the plastic bags are to be placed behind the rest area building adjacent to the exterior wall next to the storage room doors.
22. Volunteer group members shall park their personal vehicles at the end of the automobile parking area and away from the restroom building. Camping in shelters, picnic, and grass areas is not allowed.
23. Except for guide dogs for the disabled, all dogs must be kept on a leash in the pet area.
24. "At grade" crossing of the interstate median is strictly prohibited. Participants shall use available interchanges.
25. Violation of provisions by groups may be cause for cancellation and denial of future reservations.

If, in the sole judgment of ITD personnel, the group is not meeting the provisions of this agreement, ITD may terminate the agreement. This agreement may be modified in scope or altered in any other manner at the sole discretion of ITD personnel. ITD reserves the right to modify or cancel the Rest Area Activities Program at any time and for any reason at the sole discretion of ITD.

The volunteer group acknowledges and agrees that if any actions by the group relative to the performance of this agreement are determined to be contrary to any legislative restrictions or any restrictions on the use of appropriated funds for political activities, or ITD policy, rules, or procedures, ITD shall have the right to take any and all necessary remedial actions, including, but not limited to the removal of the volunteer group from the rest area.

Rest Area Activities Chairperson Signature	Date
ITD District Engineer Signature	Date

If ITD personnel are needed during group activities please call one of the following:

On-Duty Rest Area Caretaker

Rest Area Foreman (208)

Maintenance Foreman (208)

Other ITD personnel (208)

Figure 240.5

[illegible]

Figure 240.5A

ITD 2871 (Rev. 2-03)

Volunteer Release Of Liability**Adopt-A-Highway, Volunteer Services or Rest Area Activities Programs
(For Participants Under Age 18)**

All participants under the age of eighteen (18) must have this Release form signed by their parent or guardian.

Signed Release Forms must be returned to the Idaho Transportation Department prior to participation in the Adopt-A-Highway, Volunteer Services or Rest Area Activities Programs.

Volunteer Organization	Date
------------------------	------

I do hereby release and discharge the state of Idaho, the Idaho Transportation Board, the Idaho Transportation Department, and their officers, agents, and employees from all claims, demands, and causes of action of every kind whatsoever for any damages and/or injuries that may result from my participation in the Adopt-A-Highway Program and other volunteer activities on or near state highway right-of-way.

I further agree to hold harmless the state of Idaho, the Idaho Transportation Board, the Idaho Transportation Department, and their officers, agents, and employees from liability for any damages or injuries resulting from any negligence or willful wrongdoing on my part during my participation in said volunteer activities on or near the state highway right-of-way.

I have attended the roadside safety training program as a prerequisite to participation in the Adopt-a-Highway and Volunteer Services Programs. (Does not apply to Rest Area Activities Program.)

Minor's Name (please print)	Minor's Address
Minor's Signature	
I certify that I am the above minor's legal parent or guardian and hereby grant permission for him/her to participate in the Adopt-A-Highway, Volunteer Services, or Rest Area Activities Programs. I further agree to abide by the stipulations set forth in the above paragraphs.	
Parent's or Guardian's Name (please print)	Parent's or Guardian's Address (if different from minor)
Parent's or Guardian's Signature	

240.6 General Limiting Conditions and Eligibility

If any actions by the group are determined to be contrary to the provisions of the written agreement, [Section 240.4](#), or to any legal requirements or any restrictions on the use of appropriated funds, the Department shall have the right to take any and all necessary remedial action, including, but not limited to, removal of the group from future consideration for participation in the rest area activities program.

240.7 Modification of the Agreement

The rest area activities agreement may be modified in scope or altered in any other manner at the sole discretion of the Department.

240.8 Termination of the Program

The Department may terminate the agreement and remove the group from the dispensing site if, in the Department's sole judgment, the group is not meeting the terms of the agreement.

The Department may also terminate the agreement if closure of the rest area is necessary due to electrical, plumbing, or other utility outages.

240.9 Administration of the Program

Statewide coordination and promotion of the program will be provided by the Headquarters Maintenance Section with the assistance of the Public Affairs Section. Both sections will also provide support as required or requested by the Districts. The statewide Rest Area Activities Coordinator within the Maintenance Section will establish policies and procedures under the direction of the Maintenance Engineer as required.

The program will be administered in each District by the District Engineers who will provide staff to serve as coordinators for the program. District Rest Area Activities Program Coordinators will be responsible for the following:

- Contact applicants, furnish agreements, and coordinate proper execution and return of agreements. Original applications and agreements will be kept on file in the District office.
- Coordinate activities with appropriate Rest Area Foremen and Rest Area Caretakers to assure that groups are provided access and assistance in the rest area during the agreement period.
- Coordinate the placement and removal of temporary informational signs.
- Oversee the general performance of each group to ensure compliance with the terms of the agreement.
- With the approval of the District Engineer, delegate some of the above responsibilities to the Rest Area Foremen in order to accomplish the tasks in a more efficient manner.

250.0 DRAINAGE

Work performed in, near or to a stream channel, waterway and/or designated wetlands shall comply with the 401 Clean Water Act (CWA) and may require a 404 permit which can be obtained from the Department of Army Corps. of Engineers (ACOE). If a 404 permit is required, ITD shall obtain prior permission and a permit from the Department of Water Resources (IDWR) stating that work performed in or to the stream or wetland will not increase the sediment or pollution levels. If there are threatened and/or endangered species located in the vicinity including waters and non-waters, appropriate authorities shall be contacted prior to work performed in, near or to stream channels or wetlands. Maintenance staff shall contact the District Senior Environmental Planner prior to work commencing in, near or to streams, channels or wetlands.

251.0 CHANNEL REPAIR AND CLEANING

Channel maintenance should be done whenever conditions arise such as excessive plant growth or debris that restricts channel flow. The Maintenance Foreman should make recommendations on changing channel conditions where necessary. Work performed in, near or to continuous flowing streams, intermittent channels, and/or waterways with wetland characteristics requires a 404 permit obtained from the Department of Army Corps. of Engineers (ACOE) and may require a stream alterations permit from the Department of Water Resources (IDWR). Both ACOE and IDWR shall be contacted to obtain permission and necessary permits before work commences. Work should be done during low flow situations whenever possible.

The District Senior Environmental Planner should be consulted before performing any maintenance work which may impact a continuous flowing stream, intermittent channel and/or waterway with wetland characteristics.

- All drift, logs, trees, and other debris should be removed from the channel at the first opportunity. Be sure necessary easements and rights-of-way are clear prior to proceeding with this operation.
- Excessive overgrowth from grass and willows and displaced rip-rap or shot rock, etc. greatly restricts the effectiveness of the channel area. Banks should be checked, cleaned and reshaped periodically.
- Channels should be checked periodically especially dry channels, for proper drainage and excessive accumulation of weeds and/or dry plant materials which may increase fire hazards around timber structures.
- Channels should be checked as required by the ACOE, IDWR, and 404 permits.

252.0 EMERGENCY CHANNEL MAINTENANCE

In emergency situations, maintenance personnel may take immediate action to protect life and property; provided that the extent of stream alteration during such emergency shall be limited to that amount necessary to safeguard life and property. The State Highway Administrator and the Directors of the ACOE and IDWR shall be notified when emergency situations occur and may require consultation with the appropriate authorities after the emergency situation is corrected. Mitigation or corrective actions are required under some emergency situations.

When emergency actions are performed, corrective measures shall be implemented to prevent unnecessary or further alterations in, near or to the stream, intermittent channel or waterway after the emergency condition has been corrected.

In emergency situations, maintenance personnel will proceed to provide safe travel conditions for the highway user.

The ACOE and IDWR shall be notified as soon as practicable and include written documentation of all emergency actions performed after the emergency condition has been corrected.

254.0 CLEANING CULVERTS, CATCH BASINS, AND INLETS

Culvert maintenance is similar to bridge maintenance in that the basic requirement for good maintenance is scheduled periodic inspections.

Unless the culvert is of unusual size or has a particularly complex design characteristic, the Maintenance Foreman will perform the scheduled inspection.

The Maintenance Foreman is usually aware of trouble spots or problems with culverts especially those that have been in service for some time. Culverts, by their nature, can handle a variety of infrequent and varying amounts of water over its service life including storm events. However, infrequent water flows or storm events may cause excessive damage if installations are not properly maintained. Therefore, culverts should be checked and inspected regularly for damage and proper drainage.

Use the following checklist when inspecting a culvert installation:

- Check the channel for obstructions, excessive vegetative growth along banks, and sediment accumulation at the inlet and outlet of the structure.
- Observe the headwall placement with respect to the present channel and make sure the flow is not bypassing or undercutting the headwall or going around the ends
- Observe the available freeboard within the channel. If the channel does not contain a freeboard, or the freeboard is not noticeable, then this may be an indication of an obstruction in the pipe or excessive sediment accumulation.
- Check concrete box culverts for cracks and the associated piping for bolt failures.

Many culverts within older sections of the highway have been "lost" due to excess sedimentation or dirt and debris movement caused by slides and/or damage from road construction along the shoulder. Be careful when using heavy equipment near pipe installations. Note the locations and mark them prior to routine shoulder work. Check both inlets and outlets for restriction immediately after routine shoulder work.

Unless otherwise designated by agreement or special conditions, the Division of Highways is responsible for the flow of water from right-of-way to right-of-way. To guarantee the uninterrupted passage of water, clean culverts and siphons regularly.

Landowners usually cooperative and allow encroachment on their property, providing they are notified in advance of any maintenance work performed on their property. The Maintenance Foreman shall take precautions to not damage ditch banks or adjacent land. The Maintenance Foreman should ask for landowner's permission in advance even if heavy equipment is to be used inside the right-of-way.

If heavy equipment is used outside the right-of-way, the Maintenance Foreman shall obtain a signed agreement from the landowner. Any disturbance along the right-of-way or on landowner's property shall require revegetation establishment. If

practicable, vegetation shall be restored to kind or likeness similar to the original or undisturbed vegetation.

Special care shall be given to older siphon installations. If ice forms in the siphon barrel (due to shallow installation depths), water may seep into the roadbed causing damage to the existing roadway. Siphons with this type of problem should be pumped dry at the end of each water season.

257.0 RESHAPE APPROACHES, TURNOUTS, SLOPES, AND TRUCK ESCAPE RAMPS

Truck escape ramps are restored to their original condition by smoothing and working out the tracks made by the last runaway truck.

This work should be done when excessive rutting occurs on the surface, normally within three days after use.

The recommended procedure for this maintenance is as follows:

- Place signs and safety devices.
- Position one radio-equipped vehicle 1/2 mile (800 m) in advance of the ramp and another radio at the ramp. Use the radios to alert the crew of an approaching runaway truck.
- Work the areas, as needed, using a Triple K cultivator or front-end loader with a 16-inch (400 mm) harrow-type attachment. Drift material over areas that have become rutted or compacted.
- If material is required, place it on the uphill portion of the ramp and drift it down into the required locations. If excessive material has settled to the bottom of the ramp, use a front-end loader to haul the material back to the upper portion of the ramp. Do not leave excess material that causes a bump at the beginning of the ramp.
- Winter maintenance of ramp:
 - Salt ramp as required. The normal application rate is 4 1/2 pounds/square yard (22 kg/m²).
 - If excessive freezing occurs, it may be necessary to break up the ramp surface using a Triple K cultivator or front-end loader with a 16-inch (400 mm) harrow-type attachment. Reapply salt.
- Remove signs and safety devices when the operation is complete.

260.0 RIGHT-OF-WAY FENCING MAINTENANCE OR REPAIRS

Fencing on all State Highways are to be maintained at the level of service defined in [Administrative Policy A-05-19](#). Maintenance and/or repairs of any right-of-way fence should conform to the standards set forth in [Standard Drawing F-2-A](#).

TRAFFIC SERVICES (300)**301.0 LEVELS OF SERVICE**

Traffic services on each state highway route is maintained at a minimum level. There are three levels of service that are determined by the average daily traffic (ADT), accident rate, and the physical features of each route. Refer to the map and definitions in [Administrative Policy A-05-07](#) for further information. (See [Figures 301.0-A](#) and [301.0-B](#))

310.0 PAVEMENT MARKINGS

Pavement markings must comply with the Manual on Uniform Traffic Control Devices ([MUTCD](#)) adopted by the state.

311.0 PAINT CENTER LINE AND/OR EDGE LINE

Instructions, drawings and specifications for painting lines and messages are located in the "Pavement Markings" section of the Traffic Manual.

312.0 PAINT AND/OR REMOVE MESSAGES

See [Section 311.0](#), Paint Center Line and/or Edge Line."

313.0 OTHER (BROOMING, SPOTTING, REPLACE RAISED PAVEMENT MARKERS, REFLECTIVE COATING ON BRIDGE ENDS, ETC.)

Instructions on these subjects are located in the MOP Manual, the Traffic Manual, the Standard Specification Book, etc., under headings appropriate to the individual subject.

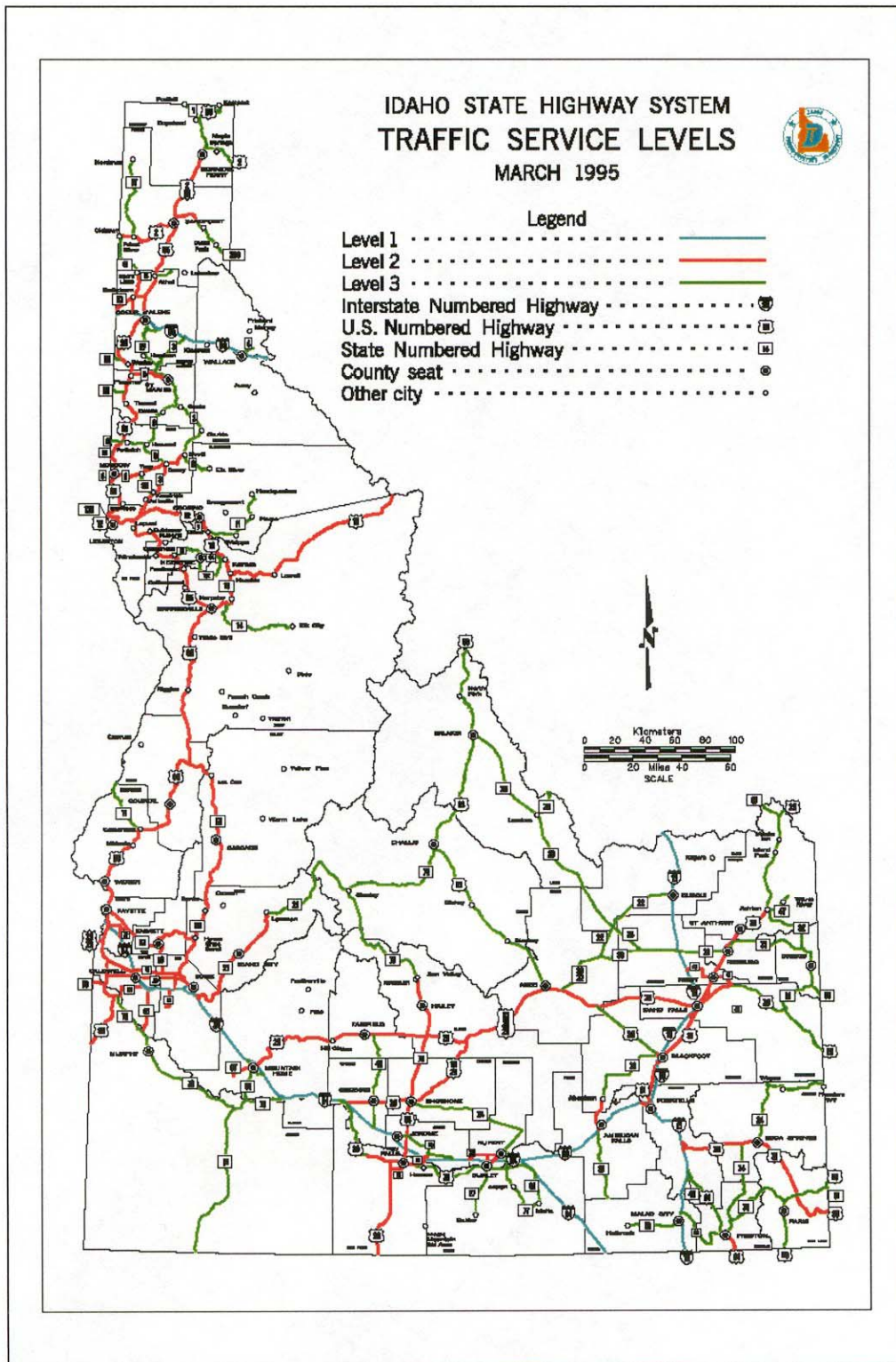
320.0 GENERAL

Traffic signs and devices must comply with the Manual on Uniform Traffic Control Devices ([MUTCD](#)) adopted by the state.

Figure 301.0-A

TRAFFIC CONTROL DEVICES MAINTENANCE SERVICE LEVELS			
	LEVEL 1	LEVEL 2	LEVEL 3
PAVEMENT MARKINGS	<p>Continuous edge, center and lane lines. Highly visible both day and night. See Traffic Manual 12-202</p> <p>Significant loss of pavement markings should be repaired within 15 days weather permitting.</p>	<p>Same as Level 1.</p> <p>Significant breaks in pavement markings must be repaired during striping season. Edge lines restriped not more than half as often as centerlines.</p>	<p>Same as Level 1, except only use edge lines where road widths are 22 feet or greater and shoulder condition is adequate to maintain lines. See Traffic Manual 12-202.</p> <p>Breaks in pavement markings tolerated not more than one striping season. Edge lines restriped only when needed to restore visibility.</p>
SIGNING	Replace signs when retroreflectivity/legibility is noticeably deteriorating. See Maintenance Manual 5-321.	Replace signs when retroreflectivity/legibility is marginal. See Maintenance Manual 5-321.	Replace signs when legibility is marginal. See Maintenance Manual 5-321.
DELINEATORS	<p>Delineators on curves, transitions and intersections should be repaired or replaces within 180 days.</p> <p>Delineators on tangents should be repaired or replaced when approximately 10% are missing or have lost retroreflectivity.</p>	<p>Same as Level 1.</p> <p>Delineators on tangents should be repaired or replaced when approximately 25% are missing or have lost retroreflectivity.</p>	<p>Same as Level 1.</p> <p>Delineators on tangents should be repaired or replaced when approximately 25% are missing or have lost retroreflectivity.</p>
TRAFFIC SIGNALS	Treat all signals alike. Repair or replace within 30 days when damaged or not working.	Same as Level 1.	Same as Level 1.
LUMINAIRES	Treat all Luminaires alike . Repair or replace within 30 days when damaged or not working.	Treat all Luminaires alike . Repair or replace within 60 days when damaged or not working.	Treat all Luminaires alike . Repair or replace within 90 days when damaged or not working.
BARRIERS (Guard rails, Bridge rails, Attenuators, Barricades, etc.)	Repair or replace within 15 days when structurally damaged. See Maintenance Manual 5-324.	Repair or replace within 30 days when structurally damaged. See Maintenance Manual 5-324.	Repair or replace within 90 days when structurally damaged. See Maintenance Manual 5-324.

Figure 301.0-B
TRAFFIC SERVICE LEVELS



321.0 SIGN REPAIR, REPLACEMENT OR NEW INSTALLATION

Instructions for proper positioning and erection of signs are contained in the Traffic Manual under "SIGNS."

Damaged, disturbed or missing signs critical to traffic operations and/or traffic safety must be promptly replaced or temporarily repaired until permanent repairs are possible. Report repairs, replacement or new installations on [ITD-2668](#) "SIGN MAINTENANCE REPORT" or [ITD-2684](#) "SIGN MAINTENANCE FIELD REPORT."

The District establishes suitable schedules for inspection, cleaning, and replacement. Inspect all signs at least once a year under daylight, and once a year under nighttime conditions. Clean them if necessary. Maintenance patrols make routine sign inspections as a part of their daily activities; other traveling personnel should be instructed to report any damaged or obscured signs immediately.

Sign bridges, cantilevered signs and overhead sign mounts require inspections and preventive maintenance to the full structure, its base and the sign mounting hardware at least every 5 years. Maintenance foremen and sign crews need to coordinate to ensure that this is accomplished.

Remove vegetation that might obscure a sign.

Sign maintenance on U.S. Forest Service lands is subject to the provisions of the current memorandum of understanding on procedures related to State highways over national forest lands. A copy of this memorandum is on file at each District office.

321.1 Illegal Encroachments

An illegal encroachment is any unauthorized use of ITD right-of-way. This can include:

- Mobile stores, mobile lunch wagons or similar businesses that stop vehicles to offer for sale or sell their wares.
- Solicitations or sale of any goods or services, attempts to serve, distribute, petition or recruit, and all associated stopping, standing or parking of vehicles, except Department-approved vending privileges in safety rest areas.
- The storage of any substance, equipment or material, including but not limited to logs, lumber, supplies or aggregates.
- The abandonment of vehicles or other large objects.
- Servicing, refueling and repairing of vehicles, except for emergencies.
- The placement of portable objects or signs, displays or other unapproved highway fixtures.
- Permanent, temporary or mobile structures, manned or unmanned.
- Any obstruction that creates a traffic hazard, including trees, shrubbery, fences, walls, non-standard mailbox stands or other appurtenances.

- Signs or displays that resemble, hide or because of their color, interfere with the effectiveness of traffic signals and other traffic control devices.

Portable objects or signs, memorials, urban improvements, landscaping, farming, irrigation or drainage, mailbox stands or turnouts, recreational parking facilities, park-and-ride lots, and school bus turnouts shall have an approved State highway encroachment permit. Permanent, temporary, or mobile structures, manned or unmanned, or the storage of materials, equipment, or supplies not included in an approved State highway encroachment permit or approved as part of a Department construction project shall not be allowed within the State highway right-of-way. Displays shall not be placed within State highway rights-of-way on structures, trees, rocks, or utility poles, except that election posters/materials may be affixed to private fences bordering the highway right-of-way and to utility poles bordering or within the highway right-of-way when written permission is obtained from the owners of such fences or utility poles. (See [Standards and Procedures for Election Posters within the Highway Right of Way in the Traffic Manual](#))

The District Engineer is responsible for ensuring compliance with all applicable laws and ITD policies relating to the removal or correction of unauthorized and non-standard encroachments. Approaches and other encroachments on the State highway rights-of-way that are installed without an approved State highway right-of-way permit, or not constructed in accordance with the Department requirements as stated in the permit, or are naturally occurring adjacent to the State highway right-of-way line and create a hazard, are prohibited and may be removed or their use may be suspended until corrective action is taken. The application process shall be immediately initiated when applicable or the encroachment removed when such a permit cannot be approved.

The area Maintenance Foreman shall identify and contact the owner of the unauthorized or non-standard encroachment to orally request a plan for immediate corrective action. The actions taken to locate and notify the owner shall be recorded in the Foreman's diary. When notice is given, use [form DH-776](#).

Non-permitted encroachments are unauthorized shall not be allowed to remain without an approved right-of-way encroachment permit. The application process shall be initiated immediately, when applicable. If the encroachment is such that a permit cannot be approved, the encroachment shall be removed.

Failure to remove the encroachment within forty-eight (48) hours shall be followed by a certified letter from the District Engineer requesting removal within ten (10) days. If the encroachment is still not removed, the District Engineer shall contact the Legal section to initiate legal action. The District Engineer may order District personnel to take immediate corrective action when time is of the essence.

The applicant may be held liable for injury or damages caused by the unauthorized or non-standard encroachment. The Department shall make no reimbursement for removal of unauthorized or non-standard encroachments nor shall compensation be made for any losses that may arise from their removal. The Department may initiate

legal action to recover costs for the removal of unauthorized or non-standard encroachments.

322.0 EMERGENCY MAINTENANCE

322.1 Road Closure

The authority for State highway closures is contained in [section 40-310, Idaho Code](#), and [Administrative Policy A-05-34](#). The State Highway administrator or the District Engineer is responsible for closing or restricting the use of any state highway whenever such closing or restricting is deemed necessary for:

- The protection of the public
- The protection of the highway or any section thereof from damage.

In the event of any incident or unusual failure of a segment of the highway caused by floods, mudslides, snowslides, snowstorms, earthquakes, volcanic eruptions, tornadoes, hurricanes, destructive winds, fires, major accidents, etc., which may cause a sudden disruption on transportation services or which may affect the safe passage of vehicles, the District Engineer or his designee will take action immediately to close the road. When it becomes apparent that a section of road will need to be closed, the District will take prompt action in the following order:

- Assess the damage
- Notify the State Communication Center(State Com) to initiate the notification process as described in the Road Closure Section of the [Dispatch Manual](#).
- Start emergency repairs to open the road, alternate route or bypass.
- Coordinate traffic control with State police and/or local law enforcement officials.
- Check the section to be closed to make sure it is cleared of all motorists.
- Establish proper signing, barricades, detour instructions, and turnaround space, in accordance with the MUTCD as adopted by the state. Although Type I barricades are allowed by MUTCD in emergency situations, Type III barricades should be used for winter road closures wherever possible. Advance warning of the closure at the nearest major crossroad should be signed in order to give motorists adequate opportunity to turn back or alternative available routes.

Appropriate barricades and signs should be readily available for routes that are frequently closed in winter. Reflectorized signs should be placed at the

nearest town on both sides of frequently closed heavy snow routes to advise motorists whether the road is open or closed.

Each district will maintain a log of all road closures to document the section closed, time and date closed and opened, reasons for closing, and other pertinent data. When a road is to be reopened (at the discretion of the District Engineer), remove all signs, barricades, and other instructional signs. Notify State Com to initiate the reopening notification process as described in the Road Closure Section in the [Dispatch Manual](#).

Do not deviate from the above procedures when closing a road, except for short term closures of less than 2 hours, in which case the District should use their own discretion on the notification procedures. Also, law enforcement personnel may, at their discretion, enforce temporary delays, and may inform the news media of road and weather conditions, and issue traveler's warnings whenever conditions warrant such action.

- If the road cannot be opened within two(2) hours, full closure procedures should be implemented.
- Request technical assistance from Headquarters through the Maintenance Engineer.

The immediate actions of the District Engineers and their staff are very critical for responsible protection of the public traveler, commercial haulers, highway personnel, highway equipment, roads, bridges, etc. The public image is affected by these immediate and proper actions or reactions to provide maximum service during any emergency.

The Headquarters staff shall assist the Districts during any emergency as follows:

- Maintenance – Coordinate the technical team assignments.
 - Coordinate road equipment needs and movement of equipment from other Districts.
 - Initiate an information system for management and staff.
- Traffic, Bridge, Right-of-Way - Provide technical assistance as requested by Maintenance
- Public Information Office – Coordinate all news releases.

The prompt actions taken will be the determining factors for being eligible for federal aid, disaster relief funds, etc ([See Section 10.8](#)). Properly executed and prompt field reports from the District Engineers are required, as shown in [Figure 322.1](#)

322.2 Hazardous Materials

See [Section 52](#), Hazardous Material/Chemical Spills.

Figure 322.1
**SAMPLE FIELD REPORT
CATASTROPHIC FAILURE**

1. General Discussion
 - a. Date of occurrence
 - b. General discussion of failure
 - c. General discussion of impact on travel
 - d. Estimated cost of repair
2. Detailed Supporting Information
 - a. Major element or segment of system
 - (1) Importance of route
 - (2) Availability of alternate routes
 - (3) Traffic data
 - b. Nature of failure
 - (1) Cause of failure
 - (2) Description of actual physical failure to traveled way
 - (3) If a bridge is involved, a description of the bridge
3. Photographs

322.3 Bridge Closure

In the event of emergency bridge repair due to floods, collision, or any other circumstance which materially affects the safe passage of vehicles, the District Engineer will temporarily close the structure. A permanent closure may result after the Bridge Engineer has evaluated the damage. If the serviceability of a structure is in doubt, temporarily close it.

As soon as the extent of damage and the method of repair have been determined, begin emergency repair immediately if the structure can be adequately repaired with State forces. In the event of major damage, which cannot be handled by State forces, negotiation shall begin for contract repair. Coordination between the District and Headquarters will be expedited to accomplish the repair with a minimum of delay and commensurate with good construction practices.

322.4 Railroad Closure

Take the following action when you find it necessary to stop a train because of an emergency condition existing at a railroad crossing on the State Highway System:

- Mark the obstruction so that it is visible to both railroad and highway traffic. Notify District Office or State Communications (1-800-632-8000) so that they can relay the message to the railroad company(s). At most crossings there is an emergency number posted at the crossing. Call the emergency number to inform railroad of the closure.
- After marking the immediate emergency area in accordance with Section 51.4, "Traffic Control Plan", place a red flag or fusee in between the rails in both directions 1610m (1 mile) from the point of obstruction. Place the first flag or fusee in the direction of "**down grade**" train travel, short sight distances for train crewmen, or the direction from which the first train is expected. Locate the flag or fusee so that the train crewmen will have as much advance warning as possible preferably between the rails.
- If time and conditions permit, place another warning device 805m (1/2 mile) beyond the first warnings in both directions along the track.
- Return to the emergency area and begin clearing the obstruction. Call for additional help if the situation is beyond your capabilities.
- Remove all warning devices after the obstruction or danger has been cleared or rectified.

322.5 Closure of Road to Extra-length Combinations, Mobile Homes, Modular Housing and Buildings

The District Engineer may restrict or prohibit the operation of the subject vehicles when road conditions become sufficiently hazardous. Hazardous conditions may be

due to ice, snow or frost; visibility restricted by fog, dust, smoke, smog or other atmospheric condition; or extreme wind velocities. Additional information may be obtained from the [ITD Permit Manual](#), Rules 39.C.11, 39.C.22 and 39.C.23.

When it is determined by the District Engineer or his designee that traffic, weather or other safety concerns make operation of the subject vehicles unsafe or inadvisable, the standard road closure notification and documentation procedures shall be followed as outlined in [Section 322.1](#) of the ITD Maintenance Manual. Additional notification shall be made to the Idaho State Police District Office and District POE Supervisor.

POE personnel will **not** initiate extra-length road closures but together with ISP they will be responsible for actually enforcing the vehicle restriction. If POE or other ITD personnel are aware of conditions which make operation of the subject vehicles and loads unsafe, the appropriate District Office should be notified immediately. Prompt notification when normal travel may be reestablished is also important. As usual, good communication of changing weather conditions will also be valuable.

322.6 Alert Bulletins

Report highway-related catastrophes of a local or regional nature and events of a lesser nature that threaten the full use of the highway to the District Office as soon as possible. Included in this category are major accidents involving multiple fatalities, bomb threats, or incidents that cause a major highway to be partially or totally closed for at least two hours.

Give as much information as possible about the situation, such as highway number and location, cause of traffic interruption, who is involved, when it occurred, how long it might be expected to last, any dangerous materials involved, etc. **Never place yourself in personal danger or interfere with investigating officials to obtain this information.**

The District should immediately notify the Maintenance Engineer or the Assistant Maintenance Engineer. The reports are screened by the Maintenance Section and transmitted to the Chief Engineer, Public Information, Permit Section and the Idaho Division Office of FHWA, who in turn notify their Washington, D.C. office.

322.7 Informative News Releases

The District Engineer shall immediately, or as soon as practical, advise the public, through the news media of all road closures. The news release shall give the time of the closure, expected length of closure, the plans to remove the impediment or correct the problem, what options are being considered, what problems are encountered, how and when we propose to resolve the problems, best possible bypass route and any other available detours.

Informative news releases shall be issued daily for the first week, three times for the second week, and as needed thereafter to report the progress on the corrective actions.

Copies of each of the news releases shall be forwarded to the Maintenance Engineer, Director, Public Information Office and State Highway Administrator.

323.0 TRAFFIC SIGNALS AND LIGHTING

Instructions for this activity are contained in the Traffic Manual under "Traffic Signals" and "Illumination."

Traffic signals and overhead illumination require inspections and preventive maintenance to the full structure, its base and the mounting hardware at least every 5 years. Electricians and sign crews need to coordinate to ensure that this is accomplished.

324.0 GUARDRAIL REPAIR OR REPLACEMENT

When a portion of guardrail not meeting current standards is damaged, consider upgrading it at the time of repair. Bring damaged terminal sections to current standards if materials are compatible and site conditions are favorable. Secure guardrail ends to the parapet at bridges if that portion of the guardrail requires repair and if such securement is practical. If substantial portion of a single run of guardrail is damaged, consider bringing the entire run up to current standards or consider other alternative which could eliminate the necessity of the guardrail.

325.0 DELINEATORS, SNOW POLES AND OBJECT MARKERS

325.1 Delineators

Delineators are to be maintained at the level of service identified on the TRAFFIC CONTROL DEVICES MAINTENANCE SERVICE LEVELS map and accompanying [Figure 301.0-A](#) in this manual. Spacing and installation should conform to the standards set forth on [Standard Drawing G-3](#). In addition to the standards set forth on [drawing G-3](#), delineators shall also be installed on interstate median crossovers which have been left in place after construction projects. The crossovers shall have amber Delineators installed along the left side of roadway at approximately 30 meters (100 ft) spacing across each entrance throat of the crossover. All delineators must meet the specifications outlined in the MUTCD as adopted by the state.

325.2 Snow Poles

Snow poles may be installed where the snow frequently exceeds two feet in depth or where drifting snow conditions are prevalent. They are not normally required on tangent sections.

Spacing and installation should conform to the requirements set forth on [Standard Drawing G-4](#). On crest vertical curves, adjust the spacing so three snow poles are visible at any one time.

Snow poles with white reflective sheeting are installed on the right side through roadway alignment when required. Snow poles with yellow reflective sheeting are installed on the left side to mark intersections and median crossovers when required.

On specific highway sections it is possible to decrease the number of snow poles by installing them only on the outside edge of the roadway providing the inside edge is adequately delineated by terrain (mountain side slope) to protect against vehicles leaving the roadway.

325.3 Object Markers

Use an OM-2 object marker or series of markers to indicate unexpected temporary hazards near the roadway, such as eroded shoulders, or other problems requiring maintenance.

Do not use object markers as Delineators.

326.0 CLEANING SIGNS, GUARDRAILS AND DELINEATORS

See [Section 321](#), Sign Repair, Replacement, or New Installation.

330.0 WINTER MAINTENANCE GUIDELINES

Winter maintenance is all work associated with snow or ice removal operations and winter storm patrol. The objective of winter maintenance operations is to provide a reasonably passable route for the highway user commensurate with ITD [Administrative Policy A-05-06](#) and within available funding and resources. It is **not** the intent of these standards to maintain a bare pavement, and no guarantee as to the condition of the resulting road surface is implied. During periods of rain, snow and freezing weather, the highway user must be prepared for less than ideal driving conditions due to rapidly changing weather conditions.

Refer to the current Winter Maintenance Standards map, [Figure 330.0-A](#), and the definitions, [Figure 330.0-B](#), for the current standards. As stated in [A-05-06](#), the District Engineers have the discretionary authority to maintain state highways at levels greater than the minimum requirements, provided the increased maintenance activity can be accomplished within budget constraints. Annual reviews are conducted to determine benefits versus costs of changing winter maintenance standards for each section of highway. As part of the annual review, the District Maintenance Engineers should coordinate with the Maintenance Engineers from adjoining districts and states to provide continuity along routes within resource availability.

330.1 Advance Preparations

The District Maintenance/Regional Engineer and Foremen shall make advance preparations so that sufficient men and equipment will be ready and in position to start snow removal work at the beginning of the first storm. Arrangements should be made in advance for sufficient operating personnel to relieve crews and thus avoid long working hours. Normally 12 hours worked in any 24 consecutive hours is the maximum that should be permitted.



State of Idaho
2004-2005 WINTER SEASON
WINTER MAINTENANCE STANDARDS

LEGEND

- level 1
- level 2
- level 3
- level 4
- level 5
- level 6

- Interstate Numbered Highway
- U.S. Numbered Highway
- State Numbered Highway
- Urban Areas
- County seats
- Other cities

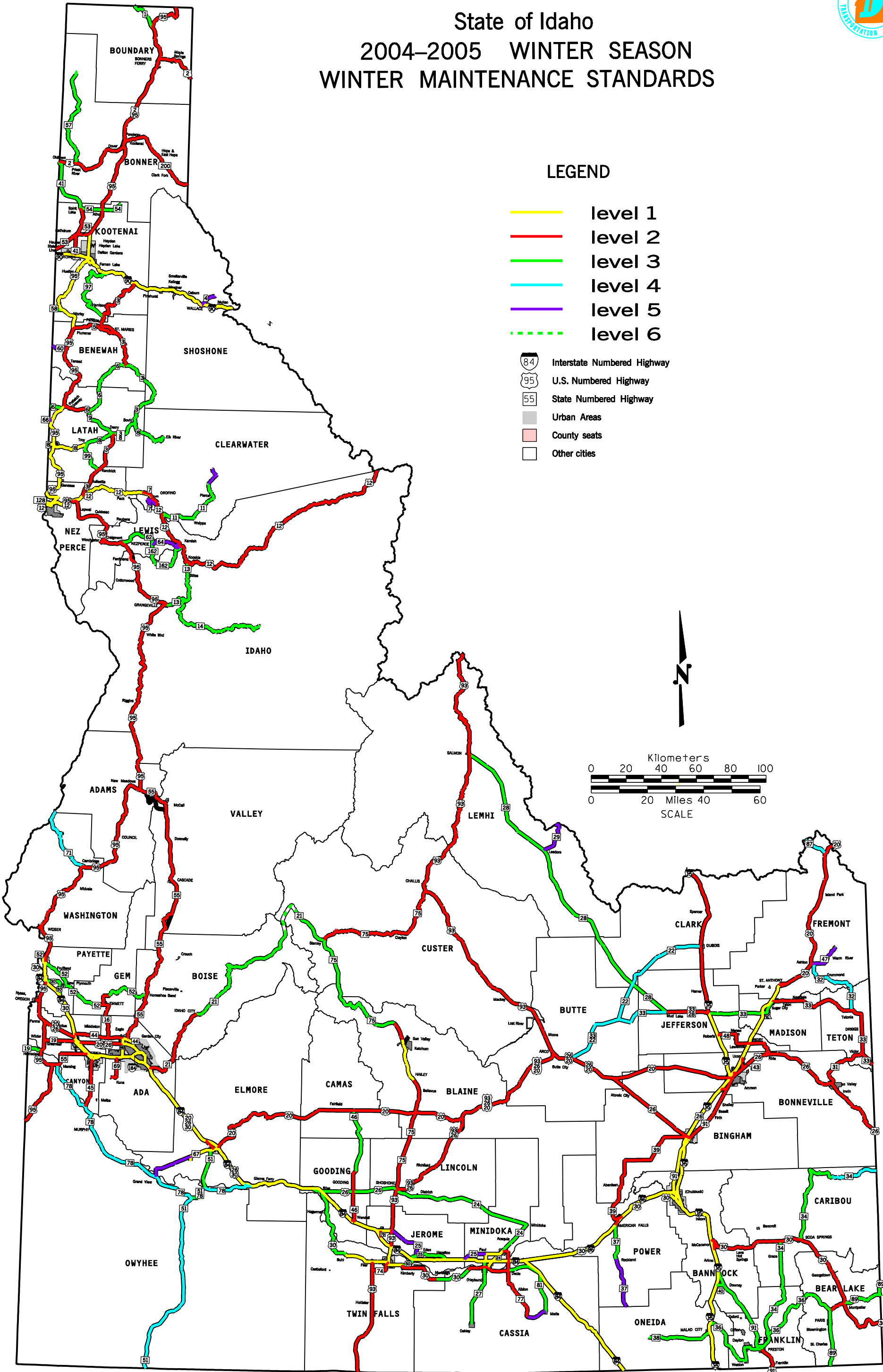


Figure 330.0-B

WINTER MAINTENANCE STANDARDS DEFINITIONS

The map identifies levels of winter maintenance service approved by the Idaho Transportation Board for those routes on the State Highway System not covered by a separate city or county maintenance agreement.

Plowing and sanding activities will be accomplished as follows:

LEVEL 1 (YELLOW)	Remove snow continually during storms to keep the roads open to traffic and provide a reasonable surface on which to operate, except when blizzard, avalanche, or other severe forms of weather make conditions such that maintenance and motor vehicle operators cannot reasonably negotiate the travelway. Keep at least one lane in each direction open during the storm. Clear the remaining lanes and shoulders after the storm ends. Patrols may be established in areas where surveillance is desirable. When effective, apply chemicals or abrasives, separately or in combination, to enhance traffic safety. Continue efforts until a trafficable condition exists.
LEVEL 2 (RED)	Remove snow during storm to keep roads open to traffic, except when blizzard, avalanche, or other severe forms of weather make conditions such that maintenance and motor vehicle operators cannot reasonably negotiate the travelway. Snowpack left by plows need not be removed until thawing conditions exist, or the pack becomes so thick as to constitute a traffic hazard when it thaws. Remove the pack and widen the travelway during regularly scheduled working hours, except that overtime may be authorized by the District Engineer if he determines it to be economically feasible. Patrols may be established in areas where conditions make surveillance desirable. When effective, apply chemicals or abrasives, separately or in combination, to enhance traffic safety on steep grades, sharp curves, bridge decks and approaches, intersections, known high accident locations, etc.
LEVEL 3 (GREEN)	When manpower and equipment are available, remove snow during the storm to keep the roads open to traffic, except when blizzard, avalanche, or other severe forms of weather make conditions such that maintenance and motor vehicle operators cannot reasonably negotiate the travelway. Additional snow removal shall be accomplished during regular working hours. Generally, chemicals and abrasives are not used, but may be applied at specific locations under unique or extraordinary circumstances. These routes may be posted to indicate limited maintenance.
LEVEL 4 (LIGHT BLUE)	Remove snow during the storm only when manpower and equipment are not being utilized to clear other routes. These routes may be closed for an extended period of time until resources are available to plow the travelway. Winter maintenance shall be accomplished during regularly scheduled working hours on these routes. Chemicals and/or abrasives are not used; if surface condition becomes too hazardous for traffic to reasonably negotiate, the section should be closed. When temporary closures are required, signing, notification of authorities, etc., are accomplished in accordance with the Maintenance Manual. These routes will be posted to indicate limited maintenance.
LEVEL 5 (BLUE)	Low volume state highways maintained during the winter at a level uniform with adjacent local jurisdiction roads.
LEVEL 6 (GREEN/ WHITE STRIPE)	These routes shall be maintained at a Level 3 standard until the first danger of avalanche exists. At the on-set of avalanche danger, the road segment shall be closed and remain closed until all danger of avalanches has ended.

Prior to winter maintenance operations, every effort should be made to assure that equipment is in top operating condition. Extra care should be taken to insure that all safety equipment is in proper working order.

330.3 Limited Winter Maintenance

In accordance with the approved Winter Maintenance Standards, Level 4 highways may be posted to indicate that snowplowing will be limited to daytime hours. The following sign legend is recommended for this purpose:

"Normal Snow Removal 6 a.m. - 6 p.m."

"Travel at Your Own Risk"

Another sign underneath indicates the limits of this restriction:

"From (town) to (town)"

330.4 Snow Removal Equipment

The District Maintenance Regional Engineer shall be responsible for determining the need for and assignment of snow and ice removal equipment. The assignment of equipment, as well as personnel, for winter operations shall be based on the approved level of service designations for highways within a given maintenance area.

Proper storage and servicing of equipment between storms will maximize equipment resources. Equipment shortages may be expected during heavy or long-duration storms due to breakdowns and the limited supply of snow removal equipment.

Coordinate new ideas or programs for utilizing men, equipment, and materials to improve snow and ice control techniques through the Maintenance Regional Engineer. Creativeness is encouraged at all levels for improvement of existing policies and procedures.

330.5 Railroad Grade Crossings

When performing winter maintenance on at-grade railroad crossings, care should be taken to minimize the deposit of ice, snow, anti-skid material, or other debris on the crossing. Slow or stop snow removal equipment as necessary before crossing to avoid damage to the equipment and/or the crossing. Be alert for approaching trains or railroad equipment.

- Stop all heavy equipment before crossing and proceed only when safe to do so.
- Always raise the nose of the snowplow or blade to clear rails and planks on the crossing.

- Immediately notify railroad authorities and provide warning for railroad users when crossings cannot be left reasonably clear or when damage may have occurred due to the snowplow or blade striking any part of the crossing.
- Sanders should be shut off at rail crossings to prevent filling of the flangeways.

When performing winter maintenance on structures that span over railroad tracks, or other facilities, avoid dropping anything over the edges of the structure.

331.0 PLOWING AND APPLYING CHEMICALS AND/OR ABRASIVES

331.1 Winter Maintenance Standards

Standards for winter maintenance have been established, approved by the Board and are explained in detail in [Figures 330.0-A](#) and [330.0-B](#) of this manual. These standards are based on the criteria of traffic volume; an accident reduction cost/benefit analysis; the number of potentially hazardous areas such as steep grades, sharp curves, intersections and ramps; and availability of resources. The intent of the standards is to provide reasonably passable routes for the highway user during winter-like conditions commensurate with available funding and resources. The assignment of these standards will be reviewed and updated each year.

There is flexibility built into these standards. District Engineers have the discretionary authority to maintain state highways at levels greater than the minimum requirements. In other words, it is permissible to use overtime to plow a level 2 route if the District Engineer determines there is a sufficient reason. Application of sand/salt to specific locations of a Level 3 route is allowed with permission, although chemicals and/or abrasives are generally not used.

331.2 Snow and Ice Removal

Generally, snow and ice should be moved to the right from centerline to the shoulder. Plowing from centerline (rather than from the inside wheel path) will minimize the build up of a packed centerline berm. A centerline berm may prolong icy conditions in the travel lanes during later freeze-thaw cycles and may also create a hazard to vehicles crossing the centerline to turn or pass. During long-duration or heavy snow storms, manpower and equipment availability may limit immediate snow removal to one pass adjacent to the centerline in each direction (truck climbing-lanes should also be maintained). A second pass in each direction to move snow on to the shoulder should be completed as soon as conditions permit. Doubling up with snowplows may be a good alternative if resources are available.

In some urban areas it may be necessary to plow snow to the center of the road or all to one side for later removal. A two-way plow should be used when moving snow to the center or one side of the roadway. Avoid operating snow removal equipment

against opposing traffic unless the area is under adequate traffic control. Street and highway intersections should be cleared to provide reasonable sight distance under the given conditions.

When a thick snow floor builds up under traffic, many times partial melting ("rotting") and/or the use of traction devices will produce a rough, uneven surface. Snowplowing over such a surface can be extremely hazardous and it should be dealt with as soon as resources become available. A motor patrol equipped with an ice bit can be used to smooth the surface, but it should not be used to completely remove the snow floor due to the possibility of scoring the underlying mat.

A rule of thumb for snow floor removal is: if the ambient air temperature reaches 13.9°C (25°F) by 9:00 a.m., there is a good possibility that application of liquid deicing chemicals at that time will be effective in total snow floor removal later in the day. The ultimate removal of snow floor build up can be greatly accelerated if the roadway surface receives an application of sanding material and/or chemicals before the storm begins. A good deal of this material will remain on the roadway even after successive plowing (see [Section 331.2.1](#), Snow and Ice Control Using Liquid Chemicals).

The operator is responsible for discharged snow when operating snow removal equipment. A good deal of care must be taken to avoid damage to adjacent vehicles or property. Overpass structures require special attention to insure nothing is dropped on the underlying roadway.

Snow removal operations often leave a windrow of snow across roadway approaches. Operators should attempt to minimize inconvenience to property owners, but the first obligation is to provide a reasonably possible route for the highway user. If equipment and personnel are available after the highways are reasonably safe for motorists, operators may remove the windrow of snow from established parking areas on the highway right-of-way and from private approaches. However, in no case is snow removal from an entire driveway required.

When weather conditions improve and pavements bare up, the recommended practice is to remove as much of the accumulation of snow from the shoulder of the road as possible. This practice will greatly reduce the amount of moisture entering the base and subgrade from the shoulder. Maintenance operations to remove snow from the shoulder should be conducted during daylight hours only. Traffic control should be provided in accordance with the [M.U.T.C.D.](#) Manual.

331.2.1 Snow and Ice Control Using Liquid Chemicals

There are three basic uses for liquid freeze point depressant (LFPD) chemicals for winter road maintenance; anti-icing, deicing and for pre-wetting of anti-skid material. Each of these methods has been shown to be cost-effective if used properly and under the right circumstances. The following gives a brief description of when and how to use each method.

Anti-icing is a snow and ice control strategy for prevention of a strong bond between frozen precipitation or frost and a pavement surface by a timely application of a

LFPD, such as liquid Magnesium Chloride (MgCl). Anti-icing is a proactive approach to snow and ice control that, when used correctly and under the right circumstances, can improve the service levels, reduce maintenance costs and provide other benefits compared to conventional plowing and sanding.

To use a LFPD effectively in an anti-icing strategy requires good judgment and knowledge on the part of the maintenance manager. The keys to a successful program are having accurate weather information, developing proper strategies for the particular area, knowledge about the chemical you are using and using proper application methods. Before initiating an anti-icing program seek advice from other Foremen or Maintenance Engineers who have experience with anti-icing or attend training on anti-icing.

When anti-icing, the LFDP is applied as a pretreatment before a storm or frost is expected to form. Applying the LFPD in this way is most effective because it forms a barrier between the pavement and the ice or snow. When a pretreatment application has been sprayed on to the pavement it will generally stay there, up to several days, until it is washed off by rain or snow melt. This fact makes using an anti-icing chemical in frost prone areas particularly cost-effective because one application may be enough to keep frost from forming for three or four days under the right conditions.

Typical initial applications are in the range of 20-30 gal/ln-mile. This application rate is enough to provide a very thin coating over the pavement surface but it is not enough to make the material begin to run off the road. Careful monitoring needs to be done as the storm continues in order to determine when and if additional applications are needed or to shift into a more standard snow and ice control strategy (i.e., plowing and sanding). The total amount of material sprayed throughout a storm in subsequent applications will depend on the pavement temperature, the amount of snow, the water content of the snow, level of service and the LFPD used.

Because of the potential for slippery conditions to be caused by misapplication of liquid anti-icing chemicals to pavement, the following guidance should be utilized:

Applying anti-icing chemicals and humidity

There is the potential for liquid anti-icing chemicals to transform from liquid to solid and solid to liquid. This “slurry” phase takes place quickly and is short in duration. The greatest potential for a slipperiness problem is when temperatures are in the 40’s and the relative humidity between 45% and 50%. Research shows the common denominator for most incidents investigated are temperatures between 40 and 54 degrees F (most often at 46 F) and a relative humidity of approximately 45-50%. The slurry transition phase can also occur at relatively low humidity levels (below 35%). These conditions typically occur in the fall and generally involve an application of liquid anti-icing chemical prior to the first freezing event of the season. Therefore:

- 1) Users should not apply anti-icing liquids for a winter event if the air temperature is above 40 degrees with a relative humidity of 45 to 50 %. If

these conditions exist, delay the application until temperatures drop.

- 2) If humidity is (or expected to drop) below 35%, application rates should be reduced to one-half the normal rate.
- 3) Most occurrences of slipperiness involved an application made between noon and 3pm. If it is necessary to make an application around these times, temperature and humidity levels must be verified prior to applying.

Applying anti-icing chemical after an extended dry spell

When a liquid anti-icing application has been made after a long dry spell, the build up of oil-based residuals left from vehicles and the application of a liquid to the roadway can produce a slick surface. This is very similar to a light rain shower on a roadway surface after an extended dry spell. The chemicals used for anti-icing are heavier than water may displace any petroleum-based residuals on the roadway surface. The chemical itself may not cause the slipperiness, but may be a contributing factor in a reduced friction surface.

Therefore users should be cautious when applying anti-icing liquids after an extended dry spell. Using lower application rates may reduce the risk of slipperiness developing under these conditions.

Multiple applications

If anti-icing liquid chemicals are being applied on multiple back-to-back applications, the application rate should be reduced on subsequent applications. Reducing the application rate will prevent excess buildup of chemical on the roadway. The rate should not be reduced if excess moisture or high traffic volumes have diluted the initial application.

One method that can be used to build a history of anti-icing applications for different storms in a particular area is by using a T.A.P.E.R. log ([Figure 331.2.1](#)). TAPER stands for **T**emperature (temperature of pavement), **A**pplication rate, **P**roduct used, **E**vent (duration and amount of precipitation), and **R**esults. By tracking these five factors for each storm in a particular area, the maintenance manager can learn how to define what application rates will work in their areas of responsibility for different storm events.

The equipment used for application of an LFPD is typically a Water Distributor or Herbicide Application truck or other truck that has been modified for the application of an LFPD. The tanks can be stainless steel or plastic and should be large enough to hold the quantity of liquid needed to cover a road section circuit without running out of LFPD. The trunks should be equipped with application rate controls that are, preferably, ground speed controlled. Stream nozzles are recommended over spray nozzles because they can be used for both anti-icing and deicing. While spray nozzles can be used for anti-icing, they should not be used in a deicing situation due to the potential refreeze into ice across the entire road surface.

As with other tools used for highway maintenance, anti-icing needs to be used properly and in the right situations. Some of the circumstances where anti-icing should **not** be used are in extremely cold [-7°C (20°F)] and falling temperatures or when blowing, drifting snow is present. Generally, light powdery snow will not stick and accumulate when pavement is cold. Traffic and wind may be enough to blow snow off the roadway. When pavement is cold and dry, applying LFPD will make the roadway wet, causing the dry snow to stick to the roadway and begin to build-up.

Another circumstance to avoid is applying chemical at an anti-icing rate **20-30 gal/ln-mile** to a snow floor. This can cause an initial melting then a refreeze that can be extremely slick. Melting of the snow floor can be done safely with LFPD, but the rate is much higher and anti-skid material is used in conjunction (see *Deicing* below).

Deicing using LFPD is a procedure that can be used to melt an accumulation of snow or ice that has become bonded to the pavement surface. Unlike anti-icing, deicing is a reactive procedure and the quantity of LFPD needed is much higher than in anti-icing. Deicing may take quantities of over **100gal/ln-mile**.

Generally, there is a good probability that application of LFPD will result in total snow floor removal later in the day, if the air temperature reaches -5°C (25°F) and are raising by 9:00 a.m. In a deicing application the LFPD should be applied with stream nozzles to enable the concentrated chemical to drill through the snow pack to begin working on breaking the ice/pavement bond. It is recommended that anti-skid material be applied to the snow surface at the same time as the chemical because as the chemical begins to work on the snow floor, slick conditions can develop and continue until complete removal of the pack. Close monitoring of the operation is required to ensure additional LFPD or anti-skid materials are applied, if needed, and the loose snow or chunks of ice are plowed off the roadway on a timely basis.

331.2.1.1 Anti-Icing Storage and Handling

There are no requirements for secondary containment for normal storage where NO impact will occur off ITD property. An exception to that may be in District 1 where they comply with the local regulations about the sole source aquifer.

If there is a risk of off site impacts from a release of stored anti-icing material, two management techniques need to be considered.

1. Control methods to stop or divert any spills that have a potential to move off site across property lines or into storm drains or through culverts.
2. Installing secondary containment around storage areas near any waters of the US. The secondary containment must be able to contain a spill from the largest individual vessel. If the secondary containment area is open to rainfall, it shall include the volume of a 24-hour rainfall of a 25-year storm, and shall be made to drain rainwater.

Figure 331.2.1

TAPER LOG

SR Number _____ Service Level Goal _____

Start Date _____ End Date _____

Ta	T	A	P	E	R	\$\$\$\$ ALTERNATIVE NOTES \$\$\$\$

Column Codes

Ta = Time of Application
T = Low Temp Since Last Application
A = Application Rate-Gallons/Lane Mile

Roadway Service Level/Condition Codes

P = Product Used
E = Event
R = Results

A = Bare/Bare and Wet Pavement
C = Bare/Bare and Wet Tracks
E = Ice or Compact Snow and Ice

Figure 331.2.1

Pre-wetting anti-skid is a technique of spraying liquid chemical onto the anti-skid material as it is applied to the road. The idea is that the thin coating of liquid chemical on the anti-skid particles will begin to melt into the snow/ice floor and as it is diluted it will then refreeze, leaving the anti-skid particle partially imbedded in the snow/ice floor. When this procedure is done correctly, using just the right amount of chemical for the conditions, it essentially creates a sand paper effect with thousands of protruding anti-skid particles imbedded in the snow or ice floor.

This is a particularly cost-effective technique in areas that develop bonded snow floors that remain for days or weeks with little or no additional snow fall. It is also a good technique on roadways where high volume truck traffic tends to blow anti-skid material off the road after it is applied.

Similar to the anti-icing and deicing procedures, there is no set application rate which will work in all situations, rather application rates will need to be varied based on the type of anti-skid used, the outside temperature, and the rate of anti-skid being applied, among other factors. The idea is to get just the right amount of liquid on the particles to partially embed them in the snow pack:

- Too little LFPD and the particles will not embed deep enough to withstand traffic.
- Too much LFPD and the particles will melt deep into the snow floor leaving no part of the anti-skid particles protruding through the snow floor to create the sand paper effect.

To learn the proper technique takes some basic knowledge of the procedures and then experience using the procedure on the roads in your area.

A typical application rate is around 15 to 25 liters of LFPD per cubic meter of anti-skid (5 to 9 gal/cubic yard), but as noted above, this rate would need to be adjusted to meet the specific situation. It is recommended that you should start the application rate on the low side and after observing how it is working, move to higher rates as needed to get the proper embedment of the material.

Most of ITD's sander trucks are being equipped to be able to do the pre-wetting procedure. The sander trucks are being equipped with two 285 liter (75 gallon) saddle tanks for carrying the LFPD and ground speed controlled spreaders. The spreaders have spray nozzles to spray the LFPD onto the anti-skid material as it is being dropped to the spinner. The operator is able to set the amount of liquid per volume of sand and the ground speed control keeps the rate constant regardless of the speed.

331.3 Anti-Skid Materials

The application of anti-skid materials may improve the pavement traction condition and help to minimize skidding. When anti-skid materials will be reasonably effective, they may be applied to the travel lanes. On lightly traveled roads, the sander may be adjusted so that the full width of the pavement is covered in one operation from the right-hand lane. However, on roads having considerable traffic, every effort should be made to operate the sander so that the sand will be spread on only one lane at a time.

Operators must be reasonably cautious when applying anti-skid materials to ensure that it does not cause damage to passing vehicles. Sanders will be shut down when approaching on-coming traffic, or when there is a possibility of causing damage to nearby vehicles from flying sanding material. Each foreman shall train their operators in the application of anti-skid materials and refresh the training annually; emphasizing the importance of preventing tort claims. Warning lights shall be turned on prior to turning on the sander and shall remain on while the sander is in operation.

When filling sanders care shall be taken to ensure that large rocks are not scooped up from the bottom of the stockpile and dumped into the sander. Sanders shall be filled so that the load is contained below the grates of the sander body and does not spill from the truck bed of tailgate sander. Excess material shall be removed from the surfaces of the unit so that it does not spill onto the roadway. Material used for anti-skid shall not be larger than 9.5 mm (3/8 in) maximum size, except in emergency situations when 9.5 mm (3/8 in) material is not available. Good judgment of existing conditions is required when determining the sanding method that will be used. The application rate of sand or sand/salt mixture should be determined commensurate with the weather conditions, type of abrasive, equipment used, etc. As temperatures fall, a deicing agent may be added to the anti-skid material to increase melting and sand embedment (see [Section 331.2.1](#), Snow and Ice Control Using Liquid Chemicals).

In urban areas where large volumes of traffic and lack of snow disposal area make it impractical to plow snow, a complete melting may be considered. If heavy traffic volumes make it difficult to get spreading equipment back into the area, use a heavy initial deicer dosage (see [Section 331.2.1](#)). Melting the snow and ice is preferable to cleaning sand from the roadway surface and possibly the catch basins in areas where curb, gutter and storm sewer systems are present.

An application of anti-skid material with deicing agent at the initial stage of a snow storm will accelerate the subsequent snow removal process. This initial application will help to reduce the bond between the pavement and the underside of the ice-snow coating.

The following target gradations are to be used for anti-skid material.

TARGET GRADATIONS
(percent passing specified screen size)

Screen Size (mm)	Mountain	CMAQ*	Black Ice	Std	Rejects
3/8" (9.50)	100	100	100	100	100
1/4" (6.35)					
#4 (4.76)	0-40			0-70	
#8 (2.36)	0-10	0-40			
#30 (0.60)			0-25	0-30	
#100 (0.15)		0-2			
#200 (0.075)	0-5		0-5	0-10	

*Clean Material for Air Quality; also requires <45% L.A. wear.

Sanding Material Descriptions:

Mountain: Coarse, fairly clean material where frequent snowfall is common.

CMAQ: Clean material for use where air quality is a problem.

Black Ice: Medium coarse, fairly clean material for use in areas prone to black ice.

Standard: Cost-effective sanding, material crushed or screened to meet a gradation. Sieve sizes selected to preclude large quantities of fine sand.

Rejects: Specification requires 100 percent minus 9.5 mm (3/8 in) for use where practical, i.e., covered storage available and high fines do not cause equipment breakdown.

Fine material (that portion passing the #30 sieve) is assumed to blow off of the roadway from initial traffic and, therefore, does little to aid in skid resistance. Therefore, different road and traffic conditions may require different sanding material gradations.

High Traffic Volume Areas: In these areas use a cleaner, low percentage of minus #30 material.

Heavy Snow Areas: Sanding material should be fairly clean, with a high percentage near the maximum 9.5 mm (3/8 in) size.

Black-Ice Areas: Use a more graded sanding material, with a high percentage above the #30 so the material does not get blown off of the roadway.

Low to Moderate Traffic Areas: Can use rejects or naturally occurring material as long as fines are controlled to prevent breaking the feed chains in the sander.

Environmentally Sensitive Areas: These areas may require a CMAQ blend of sanding material. Check with your supervisor or the District Engineer for any requirements in these locations.

When clean sanding materials are used, the application rate should be reduced. For example, the application rate based on secondary rejects containing 50 percent minus #30 should be reduced by about 1/3 when using material with 25 percent minus #30. Application frequency should also be reduced in areas prone to snow squalls when using the coarser sanding material.

331.3.1 Salt and Sand/Salt Storage

In general, in the amounts used on the roads, salt produces no permanent ecological effects. However, improper use or storage of salt has the potential to harm roadside vegetation, aquatic life and water quality. Salt or sand/salt mixtures that are stored improperly can lead to an accidental release into the environment. Therefore, every effort should be taken to prevent the possibility of accidental release into the environment.

The proper storage and handling of salt and sand/salt stockpiles is a must. Whenever possible salt should be stored in covered building on an impervious surface. When a covered building is not available, use a waterproof tarp to cover the salt piles. Drainage from the area should be designed to divert runoff away from the structure or covered pile and to collect any contaminated material in lined evaporation pond.

Temporary measures can be used until more permanent solutions, such as structures and evaporation ponds can be constructed. Temporary measures include

- Stockpile should be placed on graded area designed to divert water away from stockpile.
- Gravel or earthen berms should be constructed to contain all stockpile runoff within ITD property.
- Waterproof tarp should be used to cover stockpiles.

331.4 Winter Road Condition Reporting

With the traveling public depending on the information about driving conditions, it is important to provide a service that is reliable, consistent and current.

- The State Communication Center (SCC) dispatchers will obtain highway condition and weather information from maintenance personnel in the field for the district reports. For speed and accuracy, the information may be recorded on [Form DH-271](#).
- Once the information is obtained from the field, the districts or SCC, depending on who obtained the field data, will enter the data into the Road Report software on the ITD PC network. Once the data is entered and checked, an authorized Public Affairs staff person (or SCC in emergency situations) will click the "Post" button on the screen. Once the information has been "Posted," the information can be viewed in the Statewide Report.
- Public Affairs will record the information on the Headquarters phone system as soon as possible after the information has been "Posted" in the computer. Public Affairs will record the regional and statewide reports four times every day and any significant changes as described below when necessary.
- Any significant changes in the road or weather conditions that could affect public safety should be reported to Public Affairs (HQ) during regular business hours or SCC after hours when they happen and again when the situation is stabilized. Any unusual developments such as these should be reflected on the road report recorded message and posted to the Website, regardless of the time of day.

The road reporting times and responsibilities for the district offices, Public Affairs (PA) and State Communication Center (SCC) are detailed as follows.

ROAD REPORT UPDATE ACTIVITY

<u>Activity</u>	<u>5:30 AM</u>	<u>9:00 AM</u>	<u>3:00 PM</u>	<u>7:00 PM</u>
SCC obtains field reports	X	X	X	X
SCC updates road report software	X	X	X	X
PA (or SCC in an emergency) posts statewide report	X	X	X	X
PA records regional and statewide road report on 1-800 phone system	X	X	X	X

331.5 Winter Signing and Delineation

Special winter signing can be of great assistance to the highway user.

Although, it should be evident to most users traveling in a snow area that snowplows will be operating, the signs may further alert them. All signing should be in accordance with the [M.U.T.C.D.](#) Manual. Snowplow operation signs should be considered for narrow highways with poor alignment. Signing for icy spots must not be confused with the normal signing for slippery when wet. These signs are for two entirely different conditions.

"WATCH FOR ICE" signs should be used with discretion and only in areas of a prolonged condition such as shaded areas which seldom thaw during the day.

Bridges that have a history of ice should be posted with the standard "BRIDGE MAY BE ICY" sign.

At higher elevations where a series of frost heaves may occur, a "FROST HEAVES AHEAD" sign may be used. Individual locations should be marked with the OM-1 Object Marker.

Installation of snow poles is recommended where snow depths may frequently exceed two feet and drifting conditions are prevalent. Normally snow poles are not needed on tangent sections, but each location should be evaluated independently.

Routes designated for Winter Maintenance Standard Levels 3, 4 and 5 should be posted if limited maintenance operations are in effect.

331.6 Winter Maintenance of Truck Escape Ramps

Truck escape ramps may require additional maintenance during winter-like conditions. Approaches must be kept reasonably clear of snow and ice to provide errant vehicles access to the ramps.

Winter maintenance of ramp:

- Salt ramp as required. The normal application rate is 2.44 kg (4-1/2 lbs) per square meter (square yard).
- Spray liquid deicer as required. Use an application rate of 240 L/ln-km (100 gal/ln-mile) and check to see if the chemical penetrates to full depth. If not, apply a second application.
- If excessive freezing occurs, it may be necessary to break up the surface using a front end loader with a 406 mm (16 in) harrow-type attachment. Follow the recommended procedure given under [Section 5-257](#) of the Maintenance Manual. Reapply salt or liquid deicer chemical as required.

331.7 Snowplowing Outside of State Highway Boundaries

The State Highway Administrator may designate specific locations where snowplowing may be done outside State Highway boundaries under these conditions:

- State highways must be open for vehicular traffic before any other snowplowing can be done.
- Snow clearing may be done only as personnel and equipment become available and at locations adjacent to and abutting the right-of-way line. Generally, this service will be limited to publicly used facilities, such as post office, schools, parking turnouts, etc., where no personal benefit can accrue to any one person or business.
- Commercial approaches may be cleared in isolated areas if essential to motorist safety and service.
- This kind of snowplowing is not intended to infringe on commercial snowplowing or to deter localities from acquiring their own snow removal equipment.

District Engineers may submit recommended locations to the State Highway Administrator for his approval before any of the above work is done. Refer to [Administrative Policy A-05-25](#).

340.0 POLICY DURING SPRING BREAKUP SEASON**340.1 Authority**

[Section 49-1005 Idaho Code](#) provides authority whereby the Idaho Transportation Board may reduce allowable weight or size or permissible speeds of vehicles traveling on state highways if it is the opinion of the Board that operation of vehicles of legal weight or size or at legal speed limits will cause damage to the road by reason of climatic or other conditions or will interfere with the safe and efficient use of the highway by the traveling public.

When load and speed restrictions are applied, it is required that the Division shall erect and maintain signs designating the limitations of weight, size, or speed at each end of such highway or section and at intersections with main travel ways. The restrictions are normally required throughout the spring breakup season that can start in January in lower elevations and extend through May at high elevations.

340.2 Type of Load Restrictions

Depending upon the type of road construction, the amount of moisture, temperature conditions, and severity of frost heaves and breakup, routes or sections of routes will be posted for restricted loadings to one of the following categories as required to protect the roadway and in the interests of public safety.

1. Maximum of legal allowable weight.
2. Maximum of 7,250 kg (16,000 pounds) on any axle.
3. Maximum of 6,350 kg (14,000 pounds) on any axle.
4. Maximum of 5,450 kg (12,000 pounds).

340.3 Width Limitation on Two-Lane Road

A spring breakup weight restriction to less than legal weight shall automatically place a restriction on width allowed by special permit. On any section of highway restricted to less than legal weight, the maximum width by special permit shall be restricted to 3.8 m (12 feet 6 inches) during the period of the weight restriction.

340.4 Speed Restrictions

On those sections of highways which are posted for a maximum of legal loads, or to less than legal loads, trucks and buses with a gross weight of 10,000 pounds (4540 kg) or more will be restricted in critical areas to a maximum speed of 30 miles per hour (50 km/h). Restricted speed zones will be marked by red and yellow markers. A red marker will mean speed is restricted to 30 miles per hour (50 km/h) and a yellow marker will mean that legal speed may be resumed. These markers will generally be attached to existing highway sign posts and when properly used will afford protection to the highway subgrade and surface as well as speeding the flow of traffic.

340.5 Special Permit Policy During Spring Breakup

See [Overlegal Permit Condition Manual](#), Chapter 14, Spring Breakup Policy.

340.6 Legal Weight Limits Maintained on Certain Highways

The policy of the Department will be to maintain legal load limits on the Interstate highway system and on the arterials servicing through state traffic or connecting major termini, which are listed below, unless conditions are such that severe breakup will result.

US-2	Washington Line to Priest River
SH-7	Orofino to Ahsahka
SH-8	Moscow to Washington Line
US-12	Washington Line to Kooskia
SH-16	From Jct. SH-44 to Emmett
US-20	Oregon Line to Caldwell
US-20	From A.E.C Jct. US-20/26 to Idaho Falls to Rexburg
SH-21	Boise to Robie Creek Jct. M.P. 22
SH-24	Rupert to Jct. I-84
SH-25	Jct. I-84, Jerome to Rupert
US-26	Bliss to Gooding

US-26	From A.E.C Jct. US-26/20 to Blackfoot & Idaho Falls - Beeches Corner
SH-27	From Burley to Paul
US-30	Oregon/Idaho border to Idaho/Wyoming border
SH-33	Howe to Sage Jct., SH-33/I-15
SH-34	Cleveland Bear River Bridge M.P. 30.84 to Alexander Jct. SH-34/US-30
SH-39	Aberdeen to Blackfoot
SH-43	Beaches Corner, Jct. US-26 to Ucon
SH-44	Jct. I-84 north of Caldwell to Boise
SH-46	Wendell Jct. I-84/SH-46 to Gooding
SH-50	Jct. I-84 to Jct. US-30 east of Twin Falls
SH-53	Washington/Idaho border to Garwood Jct. SH-53/US-95
SH-55	Marsing, Jct. SH-55/US-95 to Nampa, Jct. I-84
SH-75	Shoshone to Hailey
SH-81	Burley to Malta
US-91	Utah/Idaho Line to Idaho Falls
US-93	Nevada/Idaho Line to Shoshone
US-95	Oregon/Idaho Line to Marsing
US-95	Jct. I-84 to Grangeville
US-95	Craigmont to Moscow
US-95	Coeur d'Alene to Sandpoint

In certain situations, such as when the breakup period coincides with the spring planting or spring log haul, etc., it may be more appropriate to impose speed restrictions rather than weight restrictions if at all practicable. In these situations, the District should make every effort to work with the transportation industry in establishing the most reasonable restrictions. Contact the Maintenance Supervisor when there is a question regarding the appropriateness of load or speed restrictions.

340.7 Method of Informing Interested Parties

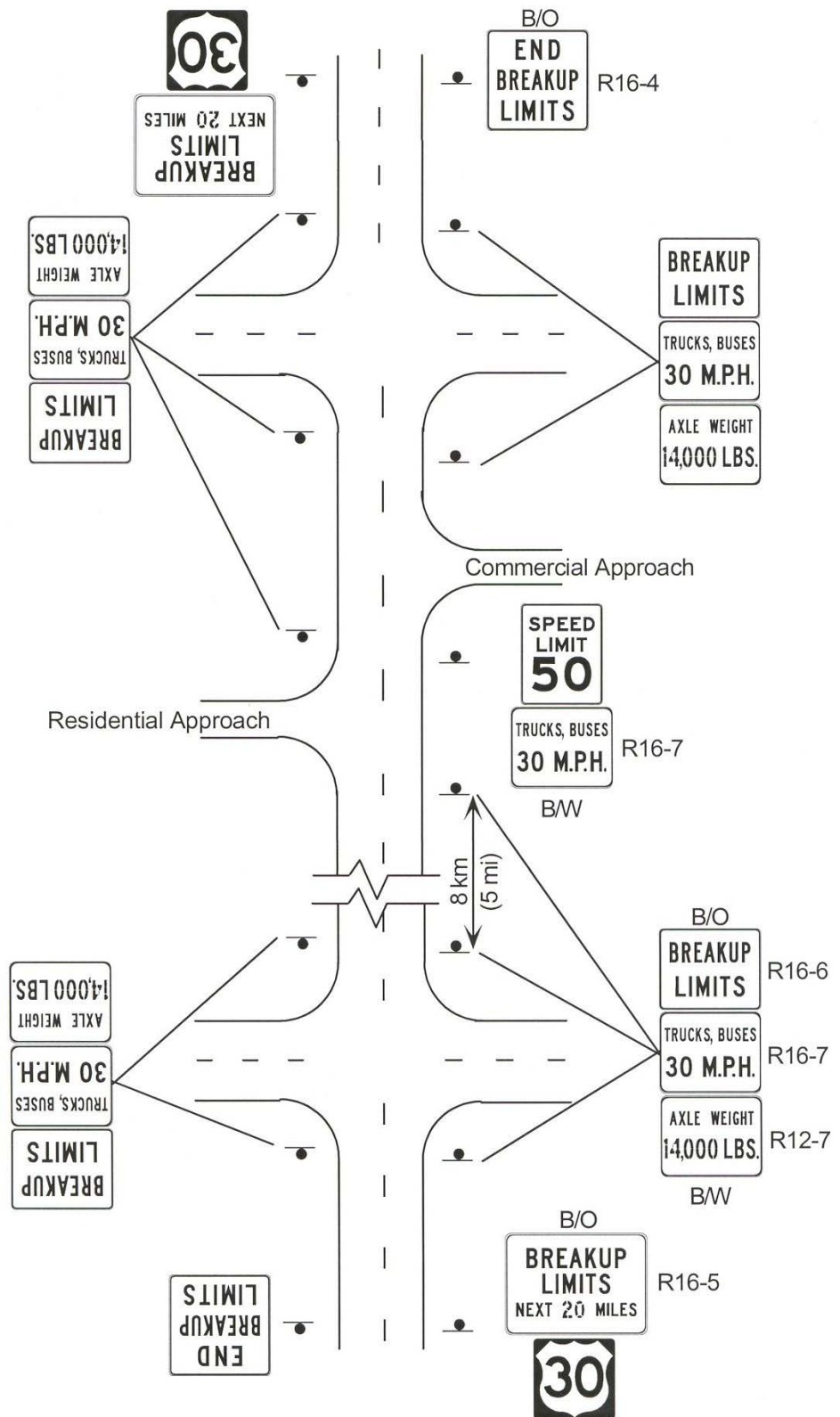
The District Maintenance or Regional Engineer is responsible for initiating the load and/or speed limit restrictions for their particular area. The District initiates the action by a telephone call from the District to the Division of Motor Vehicles, POE/Permit Office. Once notified, the Permit Office is responsible for notifying interested parties by issuing the load limit bulletin. The load limit bulletins are processed on Tuesday and Fridays. In order for the restrictions to go into effect within three days, additions and deletions to the bulletin must be called in prior to 11:00 a.m. on these days.

The effective date for the additions will be three days from the publish date of the bulletin. If the bulletin is published on Tuesday it will be effective on Friday. If the publish date is on Friday, the effective date is on Monday.

Once the Permit Office has been notified, the district is responsible for erecting the required signing as mentioned in [Section 340.1](#) (see [figure 340.7](#)). The required signing should be in place the day before enforcement begins.

Port-of-Entry personnel will begin enforcement of the posted weight limits three

Fig 340.7



days after the publish date of the bulletin.

When restrictions are removed, the action will often be effective immediately in which case the District personnel should immediately remove the load and speed restriction signs. When such signing is to be removed the District Maintenance or Regional Engineer shall advise by phone the Permit Office and Weigh Station officers in the affected area to prevent erroneous issuance of citations.

Load and speed bulletins will be numbered consecutively each season. Each bulletin will be cumulative and will list all sections of highway subject to a load and/or speed restriction at the time the bulletin is issued.

340.8 Temporary Suspension of Posted Weight and Speed Restrictions

Spring breakup restrictions are required because of a seasonal characteristic in which freeze/thaw cycles occur, making the roadway unstable and reducing its load-bearing capability. The load bearing capacity may be temporarily restored by a freeze-up of the pavement after a section has been posted for load and speed restrictions.

District Engineers may provide a temporary waiver of the spring breakup restrictions by posting GREEN markers on the speed limit signs, and on other signs, if appropriate, within a section of highway posted for reduced loads. In addition to posting green markers, a twice-daily status of the posted section will be provided by the area Maintenance Foreman to the District Maintenance Office, who will notify area State Police, Ports of Entry, and the local Sheriff's office.

340.9 Special Allowances for Emergency and Critical Service Vehicles

See [*Overlegal Permit Condition Manual*](#), Chapter 14, Spring Breakup Policy.

FACILITIES MAINTENANCE (400)**405.0 REPAIRS, UPGRADES, AND NEW INSTALLATIONS**

Construction of new buildings and capital improvements to existing buildings and grounds are considered betterment work ([see Section 600](#)).

405.1 Plumbing

According to Idaho Code, only a homeowner within their own home can replace or install new plumbing fixtures without the requirements of being a journeyman plumber. All plumbing repairs are exempt from this code. All other replacements or new installments fall under the jurisdiction of code. Everyone must obtain the proper permit to perform the replacement and new installment work and have it inspected. State employees are not exempt from this code.

405.2 Electrical

According to Idaho Code, Only a homeowner within their own home can install new electrical fixtures without the requirement of being a journeyman electrical. Electrical replacements (in-kind only, not to include upgrades) and repairs are exempt from this code. All other upgrades or new installations fall under the jurisdiction of code. Everyone must obtain the proper permit to perform the upgrades and new installation work and have it inspected. State employees are not exempt from this code.

410.0 MISCELLANEOUS MAINTENANCE

The district will establish ongoing methods to ensure that resident offices, maintenance buildings, storage buildings, fuel pumps, equipment, etc., are locked when there are no ITD employees occupying the premises. Periodically check for signs of intrusion and theft and inventory the keys to the padlocks on the gates to ensure that security is maintained.

Report cases of theft or vandalism of state property immediately to local law enforcement officers and the Maintenance Supervisor.

Report building or yard fires. When a fire does occur, follow this procedure:

- Notify the fire department, the District Maintenance Engineer, the District Engineer, and the ITD Headquarters Maintenance Engineer.
- Write a complete report as soon as possible and send it to Risk Management with copies to the Chief of Administration, Financial Services, State Highway Administrator, Maintenance Engineer, and Safety Section.

Unannounced spot checks of facilities and equipment are made by personnel designated by the District Engineer and also by assigned ITD Headquarters employees. Inspections are documented on an [ITD-2337 form \(Figure 400-1\)](#) or in a letter.

Energy conservation and safe practices shall be a major consideration for the facilities at all times. Our ultimate goal is to provide a safe, economical, comfortable, and pleasing place to work.

As new facilities are constructed, a few points concerning criteria must be considered. Unless properly justified, a new yard or site for a maintenance building must contain not less than six acres or more than ten. The number of equipment bays to be constructed for a maintenance building must be justified on the amount and type of equipment assigned to the facility to support the road maintenance load. The size of the sand shed shall be justified on the winter climatic conditions for the need to store sand, the amount of sand to be stored, and the winter highway service levels assigned.

Figure 400-1

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27-197800-9

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BUILDING AND SAFETY INSPECTION CHECK LIST

District: _____ Date: _____

Building or Yard No.: _____

This list is only a reminder. Look for other items or conditions, and report them. A (✓) indicates Satisfactory, (X) indicates Unsatisfactory, and (N/A) indicates Not Applicable.

411.2 EXTERIOR

Foundations
Walls (Type and Condition)
Finish (Type and Condition)
Windows (Type and Condition)
Doors - Personnel
Doors - Overhead
Trim
Weather Stripping and Caulking
Roof (Type and Condition)
For Detailed Inspection Use Roof Inspection Form ITD-2753
Walks, Drives, and Parking Lots
Landscaping
Yard Area
Fencing and Gates
Fuel Dispensing

11.3 INTERIOR

Walls (List Type)
Wall Finish (List Type)
Ceilings and Finish (List Type)
Floors and Covering (List Type)
Doors and Frames
Windows and Frames
Hardware, Locks, Hinges, Closers
Stairways - Handrails
Cabinets, Shelving, Work Areas

411.4 ELECTRICAL**Distribution System**

Wiring System
Service Connections
Main Panel - Fuses, Circuit Breakers, and Switches
Branch Panels
Auxiliary Disconnects
Outlets
Raceways

Motors

Motor Starters
Relays and Controls

Lighting

Incandescent
Fluorescent
Mercury Vapor
Sodium

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Heating

Base Board
Radiant
Thermostats and Controls

Communications

Telephones
Alarm Systems - Fire, Smoke

Cords
Operations and Maintenance Manuals

411.5 MECHANICAL

Water Supply

Fixtures
Drinking Fountains
Safety Showers and Eye Wash
Cleanouts, Floor Drains
Grease Traps, Sand Traps
Piping, Tubing, Valves
Pipe Insulation
Hot Water Heaters
Pumps
Sewer/Septic

Air Supply

Compressor and Controls
Piping and Valves
Strainers and Evaporators

Heating and Cooling Systems

Fuel Supply Lines
Pumps, Compressors
Fans - Circulation, Exhaust
Furnace
Coolers
Duct Work
Thermostats and Controls
Filters

Fume Exhaust Systems

Cranes and Hoist Equipment

For Detailed Inspection Use Hoist Inspection Form ITD-2756

Operations and Maintenance Manuals

411.6 HOUSEKEEPING AND SAFETY

Exit Signs
Storage of Hazardous Materials
Disposal of Waste
Aisles, Stairs, and Floors
Storage of Tools and Equipment
Wash and Locker Rooms
Light and Ventilation
Safety Equipment-Goggles, Face Shields, Respirators, Etc..
Power Tools - Wiring, Guards, Tool Rests, Etc.
Ladders and Scaffolding
First-Aid Kits

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Fire Extinguishers	_____
Bulletin Boards	_____
Safety Painting	_____
Red/Vermillion - Fire Equipment	_____
Black and White - Clear Areas	_____
- Fire Lanes	_____
Yellow - Overhead Door Guards and Jambs	_____
- Overhead Door Bottom Panel	_____
- Equipment Guards	_____
- Handrails	_____
Blue - Electrical Door Panels	_____
Green - Safety Equipment Locations	_____
- First Aid Kits Locations	_____
Others	_____

RECOMMENDATIONS OR COMMENTS

Each unsatisfactory condition to be covered by a recommendation.

[illegible]

Signed: _____
Inspector

Distribution - Copy the Original and Send: 1 Copy for District
1 Copy for Maintenance Supervisor

411.0 PREVENTIVE MAINTENANCE PROGRAM

Maintenance programs and personnel responsibilities are identified in the following sections.

411.1 Buildings and Yards

The objectives/goals of this program are:

- To keep ITD building facilities and their associated equipment in an optimum condition.
- To monitor ITD buildings and their associated equipment to ensure proper maintenance and repair.
- To perform these tasks economically and within the allocated budget.
- To minimize emergency repairs and maintenance.
- To ensure maximum compliance of ITD building facilities with building, safety, fire, and access codes.
- To acquire and maintain floor plans, diagrams, layouts, and photographs of each building, its components, and related drainage at the district office and at ITD Headquarters Maintenance Section.
- To keep up-to-date manufacturer's specifications on all equipment and materials used in our buildings.
- To set up a computer database for tracking building-related information. This would include developing a database of improvements needed to comply with updates in energy conservation, handicap access, and safety code improvements so these can be incorporated into major building remodeling projects.
- To ensure that an annual inspection and evaluation of each ITD building and related equipment is performed.
- To develop a building maintenance program whereby major building remodeling and replacement needs can be predicted and planned.
- To develop a building maintenance program whereby building preventive maintenance needs will be timely predicted and addressed.
- To maintain a record of building maintenance activities performed.
- To ensure that personnel know what to look for during inspections and what follow-up actions to take.

411.1.1 District/Headquarters General Services Responsibilities

Assign a building monitor in charge of building inspection/maintenance.

Provide at least one inspection per building per year.

Implement a preventative maintenance program for all ITD buildings, including POEs and rest areas.

Maintain a hard-file record (floor plan, maintenance, mechanical equipment, manuals, etc.) of the maintenance and repairs needed and performed on each building.

Accompany Department of Labor and Industrial Services inspectors, as needed.

411.1.2 Headquarters Maintenance Section Responsibilities

Assign a building coordinator for monitoring all ITD buildings in the districts and at headquarters.

Develop and maintain a computer database of inventory and the general condition status of all ITD yards and buildings.

Provide periodic spot inspections of ITD buildings.

Assist the districts and Headquarters General Services in implementation of a building preventive maintenance program.

Perform evaluations of roof conditions and recommendations for repair or replacement.

Assist the districts and Headquarters General Services in all aspects of building construction, necessary code compliance, and technical questions involving building repair and maintenance.

Provide technical assistance where violation of code compliance is discovered.

Perform the design of major remodel, rehabilitation, and replacement projects or procure design consultants.

Recommend energy conservation measures to be taken.

411.2 Preventive Maintenance Inspections and Service – Exterior

Inspections and service are performed in accordance with the following sections.

411.2.1 Structural Exterior (Annual Inspection)

For foundations, check the overall alignment of the structure. Look for settlement, deflection expansion, and contraction. Check the surface conditions for cracks, scaling, spalling, corrosion or chemical attack, deterioration, and water stains (does the area drain away from the building?).

For walls, inspect for appearance and condition of the wall finish. Check for blisters, cracks, and peeling. Check bolts, clips, rivets, nails, and other fasteners for tightness.

For metal buildings, check for rust and corrosion.

For masonry buildings, look for cracks, open mortar joints, efflorescence, and deterioration.

Repair all faults with state forces or outside contract as necessary.

411.2.2 Windows (Annual Inspection)

Inspect all windows and casements. Open and close windows to check for binding of operating devices. Clean and lubricate mechanisms. Keep locking devices in operable condition. Check glazing and repair as necessary.

411.2.3 Doors (Annual Inspection)

Examine jamb opening to ensure that the hinge and lock side are plumb and square. Keep all hinges, knobs, locks, rollers, guides, rails, and springs free from dirt, grease, and obstructions. Clean and lubricate all moving parts. Clean and lubricate motors according to the manufacturer's recommendations. Check all members for finish, swelling, shrinkage, and warpage. Clean door locks and lube with poxylube. Update the inventory for key control annually to prevent loss.

411.2.4 Overhead Doors (Semiannual Inspection)

Inspect, clean, adjust, and lubricate all overhead door tracks, rollers, cables, and lifting gear drives. Clean and lubricate motors according to the manufacturer's recommendations. Tighten or straighten the bracing members. Check all bolts for tightness, as they have a tendency to work loose. (Adjustment of door alignment and spring tension is essential to proper door operation. Qualified personnel must adjust the spring coil tension.)

411.2.5 Weather Stripping and Caulking (Annual Inspection)

Inspect all caulking and weather stripping for proper seal. Repair and replace as needed to keep these components effective. If new cracks have developed in the walls or around the windows and door frames, etc., caulk at this time. Use a high

quality caulking compound, such as silicone base compounds, for long life and durability.

411.2.6 Roofs (Annual Inspection)

All roof inspections should include photographs for maintenance records.

Check the supporting structure for expansion, contraction, cracks, spalling, deck supports, dry rot, moisture stains, and fasteners.

Give the system description (deck type, insulation, and roof type – BUR, coal tar, PVC, EPDM, hypalon, composition, wood, metal) and the general appearance (physical damage, debris, ponding water, etc.).

Inspect the roof for bare spots, blistering, splits, cracks, ridging, loose laps and seams, punctures, fasteners, slippage, and general deterioration.

Check flashing, counter flashing, coping, and parapet walls for any signs of deterioration.

Check all roof penetrations and mechanical equipment for signs of damage or deterioration.

Inspect the roof for drainage. Check for adequate slope. Look for signs of ponding water. Make sure the roof area and drains are clean and free of debris.

Most roofs require some type of venting, so check for adequate air flow, condensation, and eaves icing.

Roof inspections should be performed in the spring or early summer, so any repair work can be scheduled for the summer months. If it is economically feasible to completely rebuild the roof system, consider energy conservation as a factor in choosing a system.

For detailed roof inspection, an [ITD-2753 form](#) will be used by the roof inspector.

411.2.7 Walks, Drives and Parking Lots

Inspect the entire surfaced area annually. Include photographs in the maintenance records.

Check for holes, cracking, settling, edge breaking, and standing water. Determine the cause of any standing water. If the drainage area is clogged, clean it immediately. All concrete and asphalt areas are to be kept in a clean condition.

Seal concrete expansion/contraction joints with silicone sealer in all walkways, slabs, foundations, etc.

Schedule maintenance and repairs in a timely manner to avoid further damage or deterioration.

411.2.8 Yard Area (To Include Landscape, Fences, and Gates)

Establish an ongoing program for yard maintenance to keep the roads patched and the yard graded, drained, neat, clean, and arranged in an efficient working condition.

Maintain driveways in good condition. Do not store material or park vehicles on them. Whenever possible, designate definite parking areas for ITD equipment, employees' cars, and visitors' cars. Issue instructions for confirmation with this ruling. Where conditions allow it, paint traffic lines to guide the driver.

Schedule a work force, as needed (normally twice a year), to remove all weeds to eliminate fire hazards. Materials being stored can be palletized for easy movement to assist in this program.

Inspect areas around trees and shrubs for damage caused by root or branch systems (tree branches rubbing the roof membrane or roots causing cracks in foundations or walkways, etc.). Inspect for disease and pest damage. Consult the roadside foreman for information on diseases and control.

Adjust, tighten, and repair all security fences and gates, as required, so they are adequate for the use intended. Erect and maintain adequate signs to notify unauthorized personnel of the regulations within the grounds.

411.2.9 Fuel-Dispensing Station

Perform a visual inspection of the pumps and hoses. Look for loose fittings, cracked hoses, etc. All pumps should be fitted with a fuel hose breakaway valve. When possible, the pump panels should be removed to check for loose fittings, etc. The emergency shutoff switch is to be checked for proper function.

The uniform fire code requires a clearly labeled manually operated pump master switch to be located within 22.5 meters (75 feet), but not closer than 4.5 meters (15 feet), to the pump. Where such master switch is not visible from all dispensers, the location shall be indicated by approved signs. Signs identifying the pump master switch shall be labeled EMERGENCY PUMP SHUTOFF. The master switch on all individual pump circuit switches shall be set in the "off" position before closing the motor vehicle fuel-dispensing station for business at any time. Install appropriate signage if it does not already exist.

A fire extinguisher with a minimum rating of 2-A, 20-B:C is to be provided and located not more than 22.5 meters (75 feet) from any pump, dispenser, or fill pipe opening.

Schedule any necessary maintenance immediately.

411.3 Preventive Maintenance Inspections and Service – Interior

Inspections and service are performed in accordance with the following sections.

411.3.1 Walls, Ceilings, Floors and Finish

Check ceiling and walls for cracks, holes, stains, and signs of structural stress. Determine the cause of the defect and correct it before repairing the surface.

Check the ceiling and walls for overall appearance and schedule necessary cleaning or painting. Paint materials selected should be of high quality.

Inspect the floors for settling, warpage, curling edges, cracking, shrinkage, and operational abuse. Determine the cause and schedule repairs.

Check the floor finish and refinish as necessary.

Check the carpet for holes, snags, worn spots, and damaged seams. In areas of excessive use, reroute traffic by moving furniture if possible.

Check the carpet for cleanliness and clean the carpet as necessary (dry cleaning or steam cleaning). Care should be taken so the carpet does not get too wet. Avoid dry cleaning rubber-backed carpet, as solvents will cause deterioration.

For windows, doors, and hardware refer to Sections _____ and _____.

411.3.2 Stairways and Handrails

Keep stairways adequately illuminated and clear at all times. It is advisable to equip all stairways with nonskid treads.

All stairways having two or more risers, except those used to attend equipment only, require continuous handrails on each side. All handrails should project from the wall 3.81 centimeters (1 1/2 inches) and be mounted 86.36 centimeters (34 inches) to 96.52 centimeters (38 inches) above the nosing of treads and landings. Ensure that railing is secure and functional.

411.3.3 Cabinets, Shelving, and Work Areas

Check cabinets and hardware to ensure proper working condition.

All tiers and shelving units are to be secured to prevent sliding, falling, or collapsing.

All passageways, storerooms, and work areas are to be kept in a clean and orderly condition.

411.4 Electrical (Annual Inspection)

All electrical inspection and work are to be performed only by qualified personnel (electricians).

411.4.1 Distribution System

Check the wiring system for loose connections, bare conductors, defective outlets and switches, and faulty wire insulation. Look for signs of overheating, short circuits, grounds, and damaged or defective splices. Check for dirt, grease, and moisture. All wiring, fittings, and controls should be clean and dry.

All controls and outlets should be grounded to minimize accidents. All electrical devices installed near explosives or flammable materials must be explosion-proof. All receptacles installed in bathrooms or within 1.82 meters (6 feet) of a water source, and those installed in garages, shops, or outside, must have ground fault circuit-interrupter protection.

Inspect all electric panels. Check all fuses or breakers for proper operation, size, function, pitting, signs of heat, cracks, and labeling. Clean with low pressure air to remove dust. Remove covers on auxiliary disconnects and relays and clean in the same manner.

Where possible, check raceways for rust, corrosion, and other damage. Clean exposed areas.

411.4.2 Motors

Inspect and clean all electric motors properly with low pressure air to remove dust and clean any dirt or oil buildup with an approved solvent. Lubricate all bushings and bearings according to the manufacturer's recommendations. If the bearings or bushings show excessive wear, schedule replacement before the windings are damaged by rubbing on the motor fields or frames. Adjust any belts at this time. Ensure that motors have the proper guards in place and that the motor is receiving proper ventilation.

411.4.3 Lighting

Inspect and clean light fixtures, reflectors, and bulbs annually. If a large amount of dust accumulates, additional dusting is required.

Check for loose connections, faulty wiring, and slow starting or flickering bulbs.

411.4.4 Heating

Inspect and clean unit heaters, baseboard heaters, and fan blades of all residue, dust, and dirt buildup. Check for function or appliance. Look for cracked cords, faulty mechanisms, etc.

411.4.5 Communications

Check telephones for proper function, dial tone, any call lights, etc. Check cords for cracks or damage. Phone wiring should not run along floor space where there is any possibility of someone tripping over the cord or damage occurring to the line. Any repair work or changes to the phone system should be performed by qualified telephone company personnel.

Fire and smoke alarm systems require testing to ensure proper function. According to the Americans with Disabilities Act, any audible alarm system also must have visual strobe type alarms integrated into the system for the hearing impaired. See the ADA accessibility guidelines for specific requirements. Guidelines may be obtained from the ITD Headquarters Building Inspector.

411.4.6 Cords

Keep all drop cords, extension cords, and tool cords in good condition and free from breaks and fraying, which could cause shorting and fires. Do not cut or remove the ground prong from electrical cords. Do not locate extension cords in walkways or other paths of travel.

411.4.7 Operations and Maintenance Manuals

Keep all manuals and manufacturer's specifications on file. Refer to them for specific maintenance requirements. All electrical outlets in any building should be on a line drawing. Appliances, motors, panels, etc., should be included for easier maintenance and repairs.

411.5 Mechanical (Annual Inspection)

Inspections are performed in accordance with the following sections.

411.5.1 Water Supply

Water supply components consist of the following sections.

411.5.1.1 Fixtures

Inspect all fixtures, including drinking fountains, for leakage. Look at the surrounding area for signs of moisture. Check for proper functioning of sink faucets

and water closet flushing and ensure proper drainage. Remove the faucet face plate or strainer and clean mineral deposits. Keep fixtures in a clean condition. All service sink fixtures and fixtures that allow hose hookup require backflow preventers.

411.5.1.2 Safety Showers and Eye Wash Units

Safety showers and eye wash units must be provided where the eyes or body of any person may be exposed to injurious or corrosive materials and must be within the work area for immediate emergency use. Eye wash units must have a flow rate of .1514 liters per minute (0.4 GPM) for 15 minutes. Inspect, clean, and service these units semiannually to assure their working capability. Self-contained or portable eye wash units must have the same flow rate as fixed units, but should be serviced monthly.

411.5.1.3 Cleanouts, Drains, and Traps

All floor drain sumps and grease or sand traps are to be cleaned a minimum of once a year. These units can be cleaned only by pumping units or bucket and shovel methods. Do not flush this material into drain fields or sewer systems. Disposal of material must be accomplished in accordance with all applicable federal, state, and local regulations.

411.5.1.4 Piping, Tubing and Valves

Check exposed plumbing for leakage, corrosion, loose connections, loose bolts on flanges, and clamp-type connections. Inspect piping for the proper color coding as follows:

Fire Lines	Vermilion Red
High Pressure Steam	Dark Orange
Low Pressure Steam.....	Light Orange
Condensate Return Lines	Grayish White
Hot Water Heating Lines Supply	Dark Green
Return.....	Light Green
Domestic Cold Water.....	Dark Blue
Soft Water	Label every 3.048 meters (10 feet)
Domestic Hot Water	Light Blue
Chilled Water	Dark Blue with 15.24 centimeter (6-inch) yellow bands every (1.828 meters) (6 feet)
Air Lines	White
Gas Lines	Yellow
Waste and Vent Lines	Brown

Unexposed and underground plumbing requires looking for water stains on walls and ceilings, unexplained moisture on floors, and exterior evidence of leakage, ponding, erosion, and settlement of areas adjacent to piping.

Inspect valves for leakage and cracks. Clean the valve assembly and any strainers in or before the valve. Lubricate the valve stem and check the packing and seat.

Inspect pipe insulation for any damage and repair, as necessary. Care should be taken with insulation that might contain asbestos. When in doubt, have a sample tested for content.

Exposed hot water and drain pipes under lavatories used by physically disabled persons shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories.

Inspect water heaters for cleanliness, rust, corrosion, leakage, loose connections, automatic controls, combustion chambers, and burner assemblies. Lubricate any moving parts of mechanical devices. In order to reduce the possibilities of personal injury, all water heaters must have a pressure relief valve installed, with the discharge being piped to within 45.72 centimeters (18 inches) from the ground. Schedule any necessary repairs immediately.

All external pumps (not submersible pumps, etc.) are to be inspected and serviced annually. Check for general performance, liquid flow, and leaks. Inspect the diaphragm for cracks and leakage. Check the packing and lubricate the bearings.

For sewer and septic inspection, check for wastewater flow and leakage. Check any tanks that are directly connected with potable water supplies and sewer connections. Correct any possibility of backflow. Inspect any manhole frames and covers for rust, corrosion, poor fit, and physical damage. Check concrete surfaces for cracks, breaks, spalling, etc., and make repairs. Check the septic tank water and sediment levels. When sediment is within 60.96 centimeters (24 inches) or less of effluent invert, the septic tank should be pumped out. When the liquid level is high, outside flooding, defective operation of the siphon, or a clogged drainage field is indicated. Determine the cause and correct it.

411.5.2 Air Supply

Check and service the air compressor pressure relief valves and drain the condensate from the holding tanks. Check the compressor for oil leaks and tighten the seals or replace the gaskets as required. Check the air lines for cracks and loose fittings. A water separator, filter, and an air dryer may be added to the compressor if there is a large amount of condensate build up. The air compressor holding tanks are to be drained daily to prevent corrosive damage to the tank.

411.5.3 Heating and Cooling Systems

Inspect the fuel supply lines for leaks or possible problems.

Check all fluid levels. Check the heat pump for proper function. Clean and lubricate the bearings.

Clean the fan units with low pressure air. Lubricate the bearings. Check all belts for alignment and tension. For safety, all fans, belts, and similar equipment should have guards in place.

Turn off all gas- or oil-fired pilot lights on furnaces and unit heaters at the close of each heating season. At the start of each heating system, clean and relight the pilots.

Clean any dust, oil, or grease buildup on the coils, heating elements, etc. Check the fuel lines for leakage or damage. Consider replacement of pilot lights with electronic firing devices in the future for conservation of energy.

Inspect and clean air conditioners and cooling units at the start of each cooling season.

Inspect all exposed duct work for air leaks, rust, and corrosion and make repairs as necessary. Maintain clean ducting and grill work.

Check all thermostats and controls for proper function.

Remove, clean, or replace all heating-cooling unit air filters a minimum of twice a year or per the manufacturer's instructions. If the filters show an excessive amount of dirt buildup, change them more frequently to prevent reduction of efficiency of the units. Check for a good seal around the filter units. A clean filter in the heating unit saves on fuel costs and interior painting.

When servicing oil-fired units, change the supply oil filter.

Except for air filter changes, all service work on heating-cooling units is to be performed by qualified personnel only.

411.5.4 Fume Exhaust Systems

Inspect the fume exhaust system (controls, etc.) for proper function. Keep the system in a clean condition. Clean or replace the air filters according to the manufacturer's recommendation. Lubricate moving parts as necessary.

411.5.5 Hoist Inspections

Overhead hoists located in the shops, maintenance sheds, and any other buildings within the districts will be inspected on a daily, monthly, and annual basis. The daily and monthly inspections will be performed by the operator and/or the district hoist inspector following the manufacturer's suggested procedure outlined in the operator's manual. The annual inspections will be performed by one of the district hoist inspectors trained to perform these inspections. The inspections will be done in accordance to the manufacturer's recommended procedures and to OSHA and ANSI standards. All monthly and annual inspections will be documented on an [ITD-2756 form](#) and kept on file in the building in which the hoist is mounted. One copy is to

be retained in the district shop so that the hoist inspectors will have easy access to these files.

411.5.6 Operation and Maintenance Manuals

Ensure that all manuals and manufacturers' specifications are on file. Refer to them for specific equipment maintenance requirements. All mechanical equipment, piping, and fixtures should be included in the building line drawing.

411.6 Housekeeping and Safety

Maintenance and inspections are performed in accordance with the following sections.

411.6.1 Exit Signs

Inspect, clean, and service lights and exit devices semiannually. Every exit sign must be suitably illuminated. Some exit sign lights require bulb changes frequently, unless a heavy-duty, industrial, long-life, low-wattage bulb is used. Bulbs shall have an intensity of not less than 53.82 lumen per square meter (LUX) (5.0 foot candles).

411.6.2 Storage and Disposal of Hazardous Materials

The storage of hazardous materials and disposal of hazardous materials is outlined in Section ____ of this manual. Section ____ outlines the employee's responsibility for emergency response. Section ____ outlines in-house emergency spill procedures. Please refer to these sections when dealing with hazardous materials and wastes.

411.6.3 Aisles, Stairs and Floors

Every exit, aisleway, stairway, and way of travel or open space shall be continuously maintained free of all obstructions or impediments for full instant use in case of fire or other emergency.

All such areas shall be kept clean, orderly, and in a sanitary condition.

411.6.4 Storage of Tools and Equipment

Keep benches, machines, and floors free from accumulating trash, grease, and dirt. Do not leave tools and/or equipment lying around. When tools and equipment are not in use, store them in their assigned carrying case, cabinet, shelf, etc.

411.6.5 Wash and Locker Rooms

Wash rooms, showers, and locker rooms are to be kept in a clean and sanitary condition. Showers are to contain hot and cold water and appropriate cleansing agents.

411.6.6 Light and Ventilation

Windows, skylights, and light reflectors shall be maintained in a reasonably clean condition and work places shall be appropriately illuminated based on the nature of the operation.

Ventilation shall be adequately provided in all buildings and structures customarily used by personnel. Both natural ventilation and mechanically operated ventilating systems shall be utilized. In areas where toxic and noxious and/or objectionable fumes are present, ventilation shall be to the outside of the building.

411.6.7 Safety Equipment

Inspect safety and protective equipment to ensure adequate protection against the particular hazards for which they are designed. The equipment shall fit snugly, be reasonably comfortable, and shall not unduly interfere with the movement of the wearer. All safety equipment shall be approved by the American National Standard Practices, OSHA, or other regulating organization.

Equipment is to be kept in proper repair and a clean condition. Inspection should be performed during the cleaning process.

For requirements for respirator use, regulations, and control, refer to the [Safety/ Loss Control Manual](#).

4.11.6.8 Power Tools

Check cords for frays or damage. Cords shall be double insulated or be the grounded type (3-wire). Do not use any tool or cord that has the ground prong removed.

Inspect power tools for required guards, guides, and tool rests. Look for worn or damaged parts. Remove any tool from service that has any defect. Where applicable check the fluid levels and lubricate equipment according to the manufacturer's recommendations.

411.6.9 Ladders and Scaffolding

All ladders are to have a Type I or Type II rating, depending on its intended use. Ladders shall be maintained in good condition at all times. All steps, side rails, and hardware shall be securely attached and the movable parts shall operate freely without binding or undue play. Frayed or badly worn rope shall be replaced. Ladders shall be inspected frequently and those that have developed defects shall be withdrawn from service until repaired or destroyed and shall be tagged as "DANGEROUS, DO NOT USE."

Scaffolds shall conform to Sections 2501 through 2516 of Chapter Y of the Idaho Safety Code 1. Scaffolds shall be capable of supporting, without failure, at least four times the maximum intended load and shall be maintained in a safe condition.

Any scaffold damaged or weakened from any cause shall be immediately repaired and shall not be used until repairs have been completed.

411.6.10 First-Aid Kits

First-aid kits shall be made available and accessible to all personnel.

Inspect, inventory, and restock first-aid kits at least twice a year. Approved first-aid supplies must be readily available to comply with OSHA Safety and Health Standards (29 CFR 1920).

411.6.11 Fire Extinguishers

Fire extinguishers shall be conspicuously located where they will be readily accessible and immediately available in the event of a fire. They shall be located along normal paths of travel and shall not be obstructed or obscured from view. One extinguisher will serve 185.8 to 232.25 square meters (2,000 to 2,500 square feet) of floor space, depending on its type and capacity.

A certified person (contracted service) is to inspect, weigh, clean, and service all fire extinguishers at least once a year. Mark and date the inspection card that must be attached to the fire extinguisher at all times. Damaged, discharged, or faulty extinguishers should be replaced.

The monthly visual inspection and marking of the card is required by OSHA Safety and Health Standards (29 CFR 1920). Fire extinguishers shall be inspected visually to ensure that they are in the designated places, have not been activated or tampered with, and to detect any obvious physical damage, corrosion, or other impairments. Monthly inspections are to be performed by ITD maintenance personnel.

411.6.12 Bulletin Boards

Every maintenance building, shop, garage, and office shall have a bulletin board reserved for posting safety memoranda, posters, and other information pertaining to safety.

The bulletin boards shall be located in a prominent, well-illuminated place where they will be readily accessible to the greatest number of employees.

411.6.13 Safety Painting

Inspect all areas requiring safety painting. The required colors are as follows (see Figures 400-2 and 400-3):

Red/vermilion	Fire equipment
Black and white	Clear areas
Yellow.....	Overhead door guards, jambs, and bottom panels; equipment guards; and handrails
Blue	Electrical door panels
Green.....	Safety equipment locations and first-aid kit locations

Figure 400-2

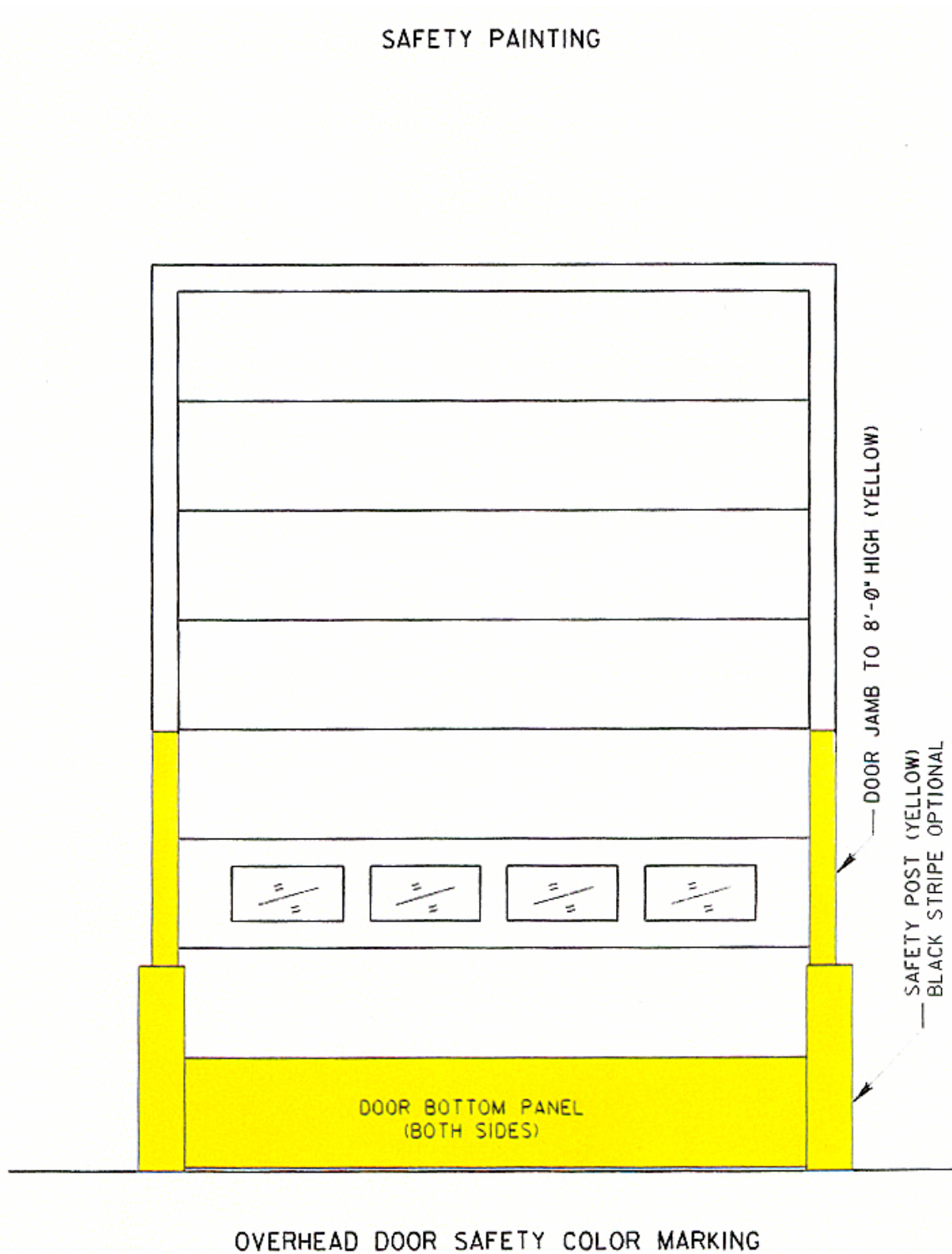
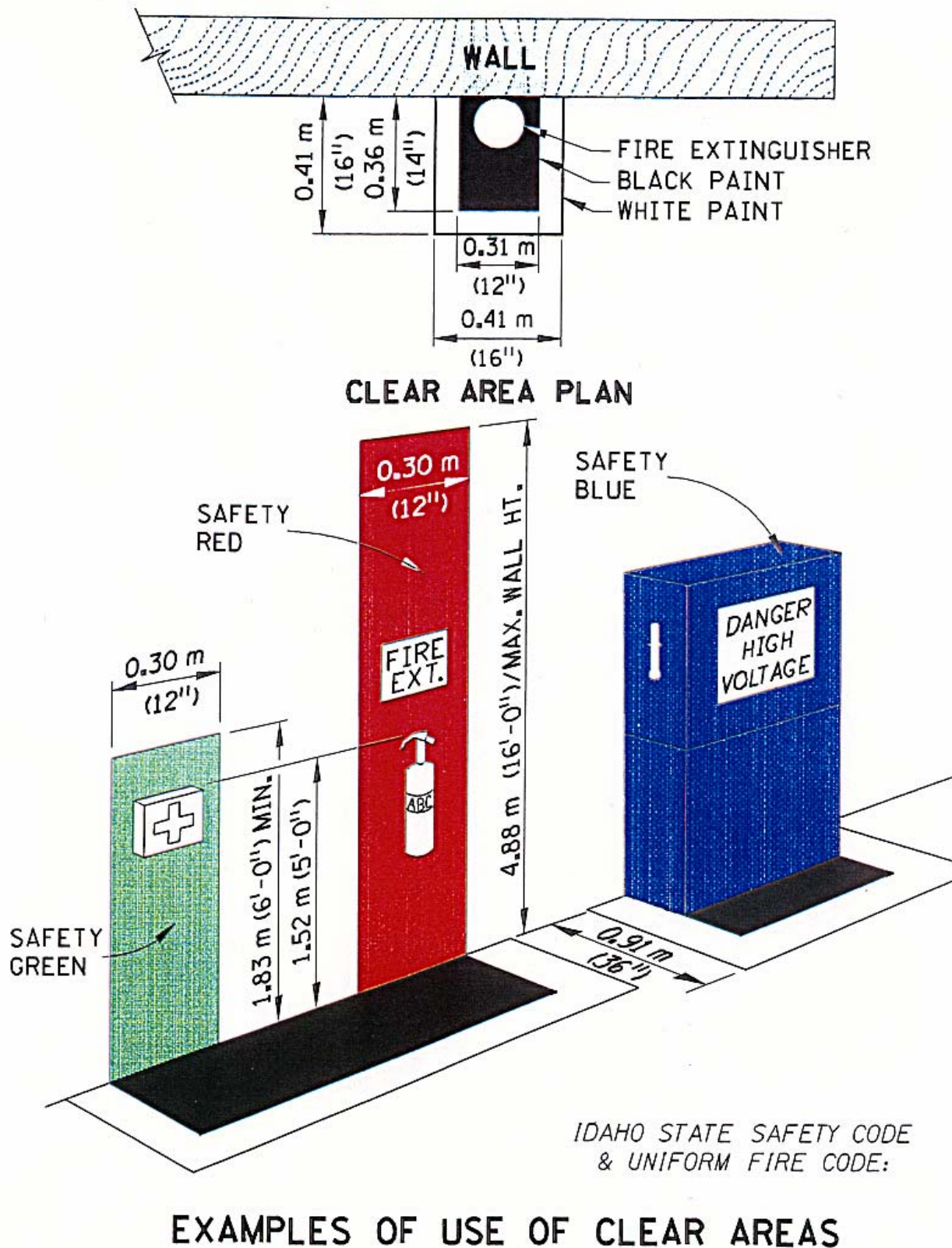


Figure 400-3



412.0 SAND SHEDS

Extensive damage has been experienced in some concrete and metal sand sheds as a result of salt storage. Salt or wet sand-salt mixtures should not be placed in contact with concrete or metal. In those instances where it is possible that this may occur, extreme care must be taken to prevent the intrusion of chlorides into the concrete and metal surfaces by use of suitable sealer, coatings, or liners.

413.0 MAINTENANCE WORK REQUESTED BY THE BUREAU OF COMMUNICATIONS AND OTHER STATE AGENCIES

Other state agencies occasionally request that maintenance or minor construction work be accomplished at their facilities by ITD forces. Before any work that will cost more than \$1,000.00 is performed, a written request detailing the work must be submitted to the Maintenance Engineer for approval. If approval is granted, a work authorization is initiated for the project. Projects that exceed \$15,000.00 require approval of the Permanent Building Fund Advisory Council (PBFAC). Approval will be coordinated through the Maintenance Engineer and the Division of Public Works.

Further information and procedures regarding work performed for other state agencies can be obtained from [Administrative Policy A-19-02](#); the [Financial Accounting Manual, Section 19-5.5](#); and the [P&MM Manual, Section 29-650](#); or by contacting the Maintenance Engineer.

414.0 USED OIL**414.1 Used Oil Generation**

ITD vehicle repair shops, service stations, and state road maintenance fleets are considered as used oil generators.

Used oils include crank case oils, gear oils, brake fluids, transmission fluids, and hydraulic oils. USED OIL CANNOT CONTAIN ANY PART OF WASHER FLUIDS, CARBURETOR CLEANER FLUIDS, BRAKE FLUIDS OR ANTIFREEZE.

414.2 Used Oil Management

DO NOT mix hazardous waste or other contaminated oils with your recyclable used oil, with the exception of diesel for use in used oil furnace units.

Used oil SHALL NOT be applied as a dust suppressant at any time.

Utilize good housekeeping procedures and encourage safe collection policies.

414.3 Used Oil Storage

Store used oil in clean, closed tanks or containers compatible with used oil. Storage containers shall be located outdoors.

Keep tanks and containers in good condition; no severe rust, no apparent structural defects or deterioration, and no visible leaking shall be present.

Used oil containers, aboveground tanks, and fill pipes on underground tanks shall be labeled or marked clearly with the words "Used Oil."

Insure all UNDERGROUND oil storage tanks (except for tanks used for storing heating fuels) with the State of Idaho Petroleum Storage Tank Fund.

Insure any ABOVEGROUND oil storage tank (except for tanks used for storing heating fuels) with the State of Idaho Petroleum Storage Tank Fund. The decision to insure or not to insure ABOVEGROUND storage tanks lies with the District Engineer.

414.4 Used Oil Releases and Spills

Upon releasing or spilling used oil, the following cleanup steps must be performed:

1. Stop the release.
2. Contain the released used oil.
3. Clean up and manage the used oil, as well as cleaning materials, properly.
4. Repair or replace any leaking container prior to reusing it.
5. If the spill or release is greater than 25 gallons and cannot be cleaned up within 24 hours, notify the regional Division of Environmental Quality office.

414.5 Used Oil Accounting

Request and file all used oil recycler/transport company shipment receipts in order to account for outgoing used oil quantities.

Keep a running account of the quantities stockpiled for burning in any used oil furnace.

414.6 Transporting Used Oil

Used oil taken from a satellite shed to the district headquarters facility shall not exceed more than 55 gallons at one time per vehicle.

Used oil transported off site by anyone, other than ITD employees utilizing ITD vehicles, must be done by a registered transporter that has acquired an EPA identification number to transport used oil.

414.7 Used Oil Filter Management

The following sections are instructions for draining, storing, etc., used oil filters.

414.7.1 Draining Used Oil Filters

All used oil filters shall be punctured and hot drained for a minimum of 12 hours before they are crushed and/or recycled as scrap metal or disposed of.

(Hot draining means removing the filter from the engine after the engine is at operating temperature. Hot draining can also be done by heating the filter after removal from the engine to ensure adequate drainage of the oil from the filter.)

414.7.2 Storage of Used Oil Filters

Used oil filters shall be stored in open topped 55-gallon barrels. Under current regulations, used oil filters may be stored indefinitely if they are to be recycled.

414.7.3 Disposal of Used Oil Filters

Light-duty truck and car screw-on oil filters can be drained of oil and disposed of as a solid waste in an approved landfill. Heavy-duty vehicle spin-on oil filters must be handled as hazardous waste, and they are NOT to be disposed of in a landfill.

414.7.4 Recycling of Used Oil Filters

Identify and use local recyclers in your area that will take used oil filters.

414.8 Regulations for Used Oil Furnaces

Used oil generators may burn used oil in oil-fired space heating systems, provided that the generator burns **ONLY** used oil received from ITD facilities. The heater must have a capacity of less than 0.5 million BTU per hour and be exhausted to the ambient air. Label the storage tank and fill pipes "USED OIL."

415.0 FUEL STORAGE TANKS

The procedures are outlined in the following sections.

415.1 UST Record Keeping

Federal regulations require tank owners to maintain the following information. This information should be kept on site and in the district headquarters.

415.1.1 Leak Detection

Certification of recent compliance with release detection requirements (including the manufacturer's performance claims and calibration and maintenance records) for a minimum of 5 years.

Monthly logs of leak detection activity for a minimum of 1 year.

Tightness test results until the next test.

415.1.2 Corrosion Protection Monitoring

Documentation of operation of the corrosion protection equipment.

415.1.3 Repairs to UST Systems

Documentation of any UST system repairs (e.g., addition of spill and overfill equipment, line leak detector testing/replacement, etc.).

415.1.4 Results of Site Investigation for Tank Closure

Results of any site investigations conducted for any post-1988 tank closure.

415.1.5 Changes in Operations

New installations.

Closures.

Reports of suspected release investigations.

Corrective actions taken.

415.1.6 State Registration Requirements

Register all underground fuel storage tanks (except for tanks used for storing heating fuels). Update any registration to reflect changes or repairs to any fueling systems.

415.1.7 Fuel Storage Tank Insurance

Insure all UNDERGROUND fuel storage tanks with the State of Idaho Petroleum Storage Tank Fund.

The decision to insure or not to insure ABOVEGROUND fuel storage tanks lies with the District Engineer ([refer to Administrative Policy A-05-09, Fuel Storage tank Insurance](#)).

415.2 Leaking Fuel Storage Tanks

The Maintenance Engineer, Assistant Maintenance Engineer, or ITD Underground Storage Tank Coordinator shall be notified immediately when a leak is discovered from an ITD fuel storage facility. If the tank is insured with the Petroleum Storage Tank Fund (PSTF), the entire problem of cleanup and mitigation shall be administered by them. Contact with the insurer will be made in writing by the Maintenance Engineer. If the tank is not insured with the PSTF, cleanup and mitigation will be done by state and/or contract forces. The Maintenance Engineer will request the assistance of the Environmental Section Supervisor and the Consultant Agreement Administrator and other resources as required.

415.3 Spill Prevention Control and Countermeasure (SPCC) Plans

The purpose of an SPCC Plan is to form a spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific AST facility. These requirements are outlined in the Code of Federal Regulations.

STOCKPILING (500)

Follow procedures in the [Maintenance Operations Procedures Manual](#) and the Administrative Procedures portion of the [Accounting Manual](#) for stockpiling activities. These may include production of premix, sand, sand and salt, and snow poles.

511.0 PREMIX PRODUCTION

Do not operate hot plants above the manufacturer's rated capacity. Operation at this capacity should prevent any violation of state and federal Environmental Protection Agency rules.

Take into account the department policy of noninterference with commercial plant mix operations. Plants should not be located within an area where commercial facilities are in operation and the cost of material is competitive with state costs.

When a hot plant has been relocated, the Department of Environmental Quality must be notified by sending the appropriate Relocation Form.

All asphalt hot plants owned or operated by the Department shall be set up and operated so there is no point source discharge of storm water from such facilities into waters of the United States and, therefore, no need for a NPDES storm water permit.

This shall be accomplished by (1) locating the plant in a pit, excavated basin, or other area that does not discharge any storm water from a point source; or (2) surrounding the hot plant facility with berms, dikes, or trenches capable of containing all storm water runoff from plant operations.

Hot plant operators shall be trained in plant set-up procedures, trouble shooting and plant preventative maintenance.

Each district operating a Department hot plant shall assign an individual to assist the plant operator in safety and operational considerations.

511.1 Quality Control

It is critical that premix produced by the Department is of sufficient quality to assure a permanent repair of the roadway surface. Contact the District Materials Section prior to set-up for asphalt requirements and any additive needs for the particular aggregate being used. Periodically check the mix quality. The District Materials Roving Inspector should sample the product and district laboratory personnel perform the appropriate tests as if this were a contract operation.

512.0 STOCKPILE OPERATIONS

Crushing of natural resources, as well as screening operations that are for cleaning or sizing material fall under the jurisdiction of the Mine Safety and Health Administration (MSHA) and therefore have the following requirements that must be met:

- MSHA must be given advance notice of the approximate date operation will commence (30 CFR 56.1000).
- Fuel trucks must be placarded (30 CFR 56.4101).
- Adequate fire extinguishers must be maintained on site and checked monthly and annually (30 CFR 56.4201).
- Continuity and resistance of grounding systems shall be tested after installation, repair and modification and annually thereafter (30 CFR 56.12028).
- All guards must be in place on moving machinery (30 CFR 56.14001).
- First-aid supplies, including a blanket and stretcher, must be maintained on site (30 CFR 56.15001).
- Proper protective gear must be worn by all personnel (30 CFR 56.15002 - .15007).
- An on-site person must perform and document daily inspections (30 CFR 56.18002).
- A suitable communication system must be available in the event of an emergency. A vehicle with a radio that will reach the base station is sufficient (30 CFR 56.18013).
- Toilet facilities must be available on site or be readily accessible from the site (30 CFR 56.20008).

Stockpile operations that only involve processing by adding salt or cement, or loading of material and/or transporting of material by highway crews without undergoing cleaning or sizing operations, are not inspected by MSHA. Neither are slag piles or stockpiles of recycled asphalt products that are not minerals in their natural form.

BETTERMENT OR REHABILITATION WORK (600)

Betterments are those improvements, adjustments, or additions to a highway which change it from the original construction to a higher type roadway such as changing the typical section by widening paved surface; widening the graded section; placing a Bituminous Surface Treatment (BST) on gravel shoulders; changing a gravel road to a BST; adding half-soles over 3/4" in thickness and over 500' in length; all first seals, including first seals on betterments; placing extra drainage structures or extension; and placing additional guardrail or guide posts.

Construction of new buildings and capital improvements to existing buildings and grounds are also considered betterment work.

611.0 Overlays

See [Section 150.6](#), "Overlays on Bridge Decks."

614.0 Mail Box Turnouts

See [Standard Drawing H-4](#).

616.0 Roadside Approaches

See [Standard Drawing H-4](#).

621.0 Building Construction

Buildings requiring a water supply will have a proven source established prior to beginning the building design. If a well is involved, provision of the pump may be a portion of the building contract.

ROAD EQUIPMENT (700)**710.0 EQUIPMENT MANAGEMENT**

The management of the equipment fleet is divided between the six districts and the Headquarters Maintenance Section. Each district and the Maintenance Section are responsible for unique duties.

710.1 Headquarters

The Maintenance Section provides, and administers all vehicle and equipment specifications and purchase requests required by the Department. The Section's goal is to provide economical equipment that is multi-functional, safe, and accomplishes the required tasks. To that end, Maintenance Section personnel are assigned administrative, financial, purchasing, and technical services. The Maintenance Section is required to establish policy and procedures for fleet administration, budgets, purchasing and allocation of vehicles and equipment to district operations.

The Maintenance Section equipment staff consists of the Equipment Superintendent, an Equipment Analyst, and a Technical Records Specialist. The Equipment Superintendent is responsible for the management of the equipment fleet including budget submittal and monitoring, policy development, complement status and inventory, maintenance and disposal. The Equipment Analyst's duties include specification development, warranty claims, various maintenance item contracts, overseeing the development and use of the Equipment Management System (EMS), and operator and mechanic training. The Technical Records Specialist is responsible for entering data into the computerized EMS, processing of equipment purchases and payments, and licensing of vehicles.

710.2 Districts

The District Engineer or designee is responsible for insuring that the equipment in the district is operated and maintained in accordance with established policies and procedures as well as making sure that the equipment is utilized to the greatest extent possible. Each District Engineer administers the operation of the District Shop that performs major and minor repair of vehicles and equipment assigned to that district.

714.0 EQUIPMENT MANAGEMENT OBJECTIVES

The equipment management objectives are to provide Idaho Transportation Department employees with the most cost efficient and well maintained vehicles and equipment available as well as the training necessary to operate this equipment so they can perform their required job assignments in the most efficient manner possible.

715.0 EQUIPMENT ASSIGNMENT

Equipment is assigned on the basis of need and usage. Accurate records provide information concerning the amount of usage. Employees with assigned equipment on either a permanent or temporary basis are responsible for keeping accurate records and performing the necessary preventive maintenance.

715.1 Equipment Complement

Road equipment is allocated to each district on the basis of need and availability. A complement system is used to establish the quantity of units assigned to each individual district.

The district complement is reviewed biannually by the Equipment Superintendent and district personnel to determine if changes are required. The previous year's utilization figures and mileage reports as well as employee complement changes are used as consideration for adjustments made in the complement levels of each type of equipment. One for one category changes in complement will be allowed as needed. Requests for changes in complement resulting in an increase in the total number of units must be made prior to the complement review meeting and shall be accompanied by supporting documentation justifying the need for additional equipment. All complement level increases shall be approved by the Chief Engineer and prior to the purchase of additional units.

The Headquarters complement is reviewed annually by the Equipment Superintendent and Section personnel to determine if changes are required. Adjustments in complement levels require the same procedure as district complement adjustments.

715.1.1 On-Hand Inventory Levels

The District Engineer is responsible for maintaining the on-hand inventory level of equipment is equal to the established complement level for each category of equipment. As new equipment is received, the District is responsible for insuring that surplus equipment is disposed of in a timely manner. Surplus equipment can be retained for use during summer months of operation with planned disposal taking place during the fall of each year. All surplus equipment shall be disposed of by December 31 of each year resulting in the on-hand inventory level being equal to established complement levels.


715.2 Equipment Transfer Procedure

Equipment is transferred from one district to another district through the use of the ITD-991 Equipment Transfer Request form. This form must be completed by the receiving district and signed by the Maintenance/Region Engineer. The form is then forwarded to the Equipment Superintendent for approval.

Refer to Figure 700-1.

ITD - 991 1-98

ROAD EQUIPMENT TRANSFER REQUEST
TRANSFER EFFECTIVE THE 1ST DAY OF THE FOLLOWING MONTH



Equipment Number 5 Date _____

Description _____

FROM: District/Category _____ TO: District/Category _____
(Circle One) (Circle One)

Org. _____ Co. _____ Shed _____

Signed _____ Approved _____
(Receiving District Maintenance/Region Engineer) (Equipment Superintendent)

Distribution: To be completed by Headquarters Maintenance

Original - Equipment Superintendent	Pink Copy - Financial Services
Yellow Copy - Receiving District	Gold Copy - Sending District
Green Copy - GASCARD Administrator	Photocopies of Original - Chem Lab & P&MM

715.3 Criteria for Vehicle Assignment

Individual vehicles can be assigned to personnel or work crews based on need and usage. All assigned vehicles are to be utilized at 100 percent of the Department assigned target utilization level. It will be the responsibility of the individual or work crew lead worker to make sure that all utilization is recorded on the proper forms. Assigned vehicles not receiving 100 percent of target utilization can be reassigned to another location at the discretion of the Equipment Superintendent or District Maintenance/Region Engineer responsible for that area.

715.4 Motor Pool Operations

Each of the six districts and headquarters maintains a motor pool of unassigned vehicles and equipment. These motor pools are to be utilized by Department personnel to conduct Department business.

The districts and headquarters are to assign a single individual to maintain the paperwork for checking out the individual vehicles. Prior to all business trips in excess of 100 miles, the employee wishing to check-out a pool vehicle must complete all sections of the ITD-9 for that vehicle with the exception of the ending mileage and total mileage columns before they are given the keys to the vehicle. Upon returning the vehicle, the ending mileage and total mileage columns are to be completed. For short business trips, the assigned individual maintaining the paperwork shall create a single entry recording all miscellaneous mileage on the vehicle for each month. ITD-9 forms are to be data entered on a monthly basis.

716.0 EQUIPMENT IDENTIFICATION, LICENSING AND REGISTRATION

Any equipment used for the management and/or maintenance of state highways, that uses fossil fuel and has an initial cost exceeding \$1000 is considered road equipment and will be identified with an equipment number. Class and category numbers will also be assigned for inventory and rental designation purposes. Refer to Figure 700-5 in Section 744.0.

Passenger vehicles shall be painted a single tone of any selected manufacturer's standard random color. The standard six-inch department door decal of the appropriate contrasting color (gold or black) shall be displayed on the center portion of each front door.

Light duty utility vehicles include all categories of vehicles from Category 200 to 230 except those vehicles utilized by Port of Entry operations. Light duty vehicles shall be painted factory standard fleet white on the cab and factory installed beds. Aftermarket bodies and accessories mounted above the frame and behind the cab shall be "DuPont" No. 7893 yellow. A 4" to 6" horizontal reflective yellow stripe shall be applied to both sides and rear of all light duty vehicles on the white painted portion. Reflective yellow stripes are not required on yellow painted bodies. A department blue/orange reflective decal shall be installed on the center portion of each front door.

POE vehicles shall be painted a manufacturer's standard tan/beige color. The standard black six-inch department door decal shall be displayed on the center portion of each front door.

Heavy-duty truck vehicles include all categories of vehicles from Category 320 to 347 and Category 372 to 393. Truck cab, hood, and fenders shall be factory standard fleet white color. Painted portions of truck chassis and underbody components shall be black in the manufacturer's paint and finish. Other components may be finished according to the factory finish.

Other components may be finished according to the factory finish. Bodies and accessories mounted above the frame and behind the cab shall be "DuPont" No. 7893 yellow. A 6" horizontal reflective yellow stripe shall be applied to both sides of the cab. Yellow dump bodies and flatbeds shall have a reflective yellow stripe of the appropriate width applied to the lower longitudinal rail of the dump body. The tailgate perimeter shall be outlined with the appropriate width of reflective striping. A department blue/orange reflective decal shall be installed on each front door.

Street Sweepers, Categories 907 & 910, shall be factory standard fleet white color. A 6" horizontal reflective yellow stripe shall be applied to both sides and rear of the cab and sweeper body. A Department blue/orange reflective decal shall be installed on each front door.

Construction equipment shall be painted the manufacturer's standard safety yellow. If the manufacturer's standard color is not yellow, then the unit will be painted "DuPont" No. 7893 yellow. A department blue/orange reflective decal shall be installed on each side of unit.

All other ITD road equipment including rotary snow plows, snow plow blades, and trailers that are utilized on State of Idaho highways, shall be painted "DuPont" No. 7893 yellow. A department blue/orange reflective decal shall be installed on each side of unit.

Miscellaneous small equipment, such as lawn mowers, generators, water pumps, pavement breakers, and larger equipment that is utilized solely on department grounds such as forklifts, and lawn tractors are exempt from both paint and decal requirements.

Identification

Licensed equipment, except trailers, shall utilize the State of Idaho license number as the equipment identification number. If additional labels are required, they shall be positioned next to the front doors utilizing black decals. For all other equipment and trailers, the equipment number shall be affixed to the unit utilizing decals or painted stencil number, whichever is deemed appropriate.

Titles are held on file in the Maintenance Section office. A packet containing the vehicle registration, any overlegal permits, accident form ITD-556, accident claim slip and accident instruction slip is issued and will be kept in each vehicle displaying license plates.

717.0 EQUIPMENT MANAGEMENT SYSTEM

The automated equipment management system used by the Department aids in the management of fleet operations. The system provides information on all phases of the equipment life cycle, e.g., labor charges, parts, supplies, rental income and fuel usage. Data is gathered from the supply system, accounting system, automated fuel systems and equipment maintenance areas.

Output reports aid in determining replacement schedules and selecting equipment types. Other reports indicate utilization and downtime, which aid in complement determination. Various reports are used to track budget expenditures for operating and owning equipment. Reports on high and low costs for equipment use will aid in determination of disposal lists.

The system is intended to provide shop management information and aid in developing a needs-oriented budget for all phases of equipment management within the Department.

718.0 REVOLVING FUND (PLANNED)

Proper management of an equipment fleet is accomplished when all personnel from users to administrators have the same common goal. This goal is achieved through training and having the proper management tools. An Equipment Revolving fund is one such tool. A Revolving Fund coupled with a dual rental rate system encourages both users and administrators to budget equipment and time as accurately as possible so that a work tasks can be performed as efficiently as possible.

At the request of the Chief Engineer, the Maintenance Section along with other Department personnel are working toward the implementation of an Equipment Revolving Fund in FY-2007.

720.0 BUDGET PROCESS

720.1 Budget Requests

The Maintenance Section submits to Executive Management a list of the vehicles and equipment that will be at or beyond the determined economic life for such equipment at the time the budget is finally approved. This list is accompanied by the estimated cost of replacement for the units to develop a proposed budget for road equipment replacement. This request is then submitted to the Governor's Office as part of the total Department budget request.

720.2 Approval Process

The budget request for road equipment must first be approved by the Governor before it is submitted to the Legislature for approval. Either the Governor or the Legislature may alter the request as they deem necessary. The budget as approved by the Legislature is then returned to the Department's Executive Management for implementation. The Department's Executive Management may at this time alter the approved budget if necessary to fund other needs of the department.

720.3 Budget Allocation District 61

The final approved equipment budget is allocated in a two step process. The first step is to determine the amount of money needed to sustain the headquarters fleet and Buy-Back programs for the districts. In addition to determining these requirements, any large purchases required by the districts are determined. Purchases such as truck fleets, crawler tractors, rotary snow plows and striping trucks are allocated at this time. After making all these determinations, the remaining money is allocated to funding replacement priorities recommended by the districts.

720.4 Budget Allocation Districts 1 to 6

The districts are allocated money to replace vehicles and equipment that is not included in the above section. Equipment such as sedans, pickups, individual pickups, loaders, motor graders, and other miscellaneous equipment is the district's responsibility to replace as money is allocated to them.

The money is allocated to the districts based on the amount of preventive maintenance performed by the district staff, the amount of utilization from the previous year, and the average age of the district fleet.

720.4.1 Preventive Maintenance

Ten (10) percent of the total district allocation is based on the amount of preventive maintenance performed on the vehicles and equipment in the district fleet. Of the ten percent, half is allocated on the basis of the number of work units completed and the remaining half is allocated on the number of man-hours required to complete the preventive maintenance. All types of preventive maintenance activities are utilized in the analysis for all types of vehicles and equipment.

720.4.2 Individual Fleet Age

Forty-five (45) percent of the district allocation is based on the current age of the district fleet. Equipment that is replaced from the District 61 allocation such as truck fleets, crawler tractors, striping units and rotary snowplows are not utilized in this analysis since the district allocation is not utilized to replace this equipment.

The allocation involves using weighted averages based on individual equipment replacement cost.

720.4.3 Previous Year Utilization

The remaining forty-five (45) percent of the district allocation is based on the previous year's utilization of the equipment in the district. As with the age allocation, equipment that is purchased from the District 61 allotment is not utilized in the analysis and the allocation is weighted on the basis of replacement value.

730.0 PURCHASING CONCEPTS**730.1 Fleet Purchase Concept**

In the 1970's the Department began purchasing dump/sander trucks on a district fleet basis. This concept proved to be beneficial for both the individual districts and headquarters equipment management.

The benefits of purchasing trucks in fleets for the individual districts are as follows:

1. Trucks located in the same district are identical.
2. Fewer replacement parts have to be inventoried.
3. An operator can change from one truck to another and will be familiar with the controls and operation.
4. Operators and Mechanics can be trained at a lesser cost.
5. All service and preventive maintenance schedules are alike which eliminates confusion.
6. Headquarters personnel are made responsible for determining the replacement schedule of fleet equipment in lieu of the districts determining when a unit needs to be replaced.

7. By headquarters determining the replacement schedule, the equipment will be replaced on schedule and at the economic life instead of being retained past the economic life, which is the current situation.
8. The equipment fleet statewide will become more modernized through scheduled replacement.

730.2 Weighted Evaluation Bid Award Criteria

The weighted evaluation bid award criteria (Points System) is utilized on vehicle and equipment purchases where a large disparity exists in the quality of the various brands offered. This type of bid evaluation takes into consideration factors that normally are not considered in regular low bid evaluations. Items that offer a safer unit, a maintenance cost savings, operator comfort, and reduced operation costs are awarded additional points in the evaluation process.

This type of bid award evaluation encourages all vendors to participate in the bid process. Since implementation of this type of bid evaluation, bid responses for trucks have increased. This increase in interest by other vendors provides the Department the opportunity to purchase better equipment at a more competitive price.

The Points System begins by awarding the low bid response a maximum number of predetermined points. Each point item is assigned a point value based on the expected payback of the item. If the bid response meets the points item criteria as established in the specifications, then the point value for that item is added to the point value for price. This is completed for all point items. The bid response ending with the highest total point value is then determined to be the successful bidder.

730.3 Buy-Back Criteria

The buy-back method of determining the low responsive bid offers the vendor an opportunity to repurchase road equipment that was sold to the Idaho Transportation Department. At the time of the bid, the vendor submits a bid proposal stating the selling price of the equipment and a guaranteed price that the vendor is willing to pay to repurchase the equipment at a specified date.

The buy-back method of purchasing equipment is utilized on equipment that has a high volume of sales in the contractor/construction market. The buy-back method has been successfully used to purchase motorgraders, loaders, backhoes, and tractor trucks.

Purchasing equipment via the buy-back method offers ITD many advantages. Reduced ownership and maintenance costs are realized as well as several intangible benefits. Some of these benefits are less downtime for repairs and locating parts, fewer mechanics are required due to reduced workload, operator fatigue is reduced, employee moral is higher, and newer equipment is more efficient.

This form of equipment purchasing is effective due to the fact that ITD and the vendors are able to take advantage of municipality concessions on pricing and the absence of federal taxes that are not charged on equipment being purchased by municipalities. The vendor is able to repurchase the equipment after a short duration of time from ITD at a cost that is below the current market value of new units. The vendors are able to quickly sell equipment with low hours, extended warranties, and no excise taxes to the contractor/construction market at a fair price with a fair profit.

730.3.1 Buy-Back Bid Evaluation Process

The goal of the buy-back bid process is to reduce the ownership costs associated with the equipment fleet. Therefore, a financial analysis is performed by the Equipment Superintendent on each bid response that contains a buy-back proposal to determine the lowest ownership cost of all bid responses.

When purchasing equipment via the buy-back method, full disclosure of the bid evaluation process is detailed within the specifications. The method for calculating the ownership cost is detailed along with the calculations for loss of interest on the purchase price. As part of the specifications, all buy-back bid responses are required to obtain a surety bond in the amount of 10% of the buy-back amount. This protects ITD in the event the vendor is not able to repurchase the units at the specified date.

For direct purchase bid responses, the annual cost is calculated utilizing straight-line depreciation over the useful life of the equipment, and a 20% salvage value. A salvage value of 20% is utilized in the equipment analysis to provide a more accurate account of market value at the end of its useful life.

Buy-back bid responses are evaluated by taking the purchase price of the unit and subtracting the buy-back offer. The amount is then divided by the respective number of years that ITD will own the unit to arrive at the annual cost of ownership. This resultant value is then compared to the annual depreciation cost calculated for all direct purchase proposals. The bid proposal that offers ITD the lowest annual cost is awarded the bid.

Refer to Figure 700-2.

730.3.2 Buy-Back Boot Analysis

As each unit is sold to the vendor, a new unit must be purchased to maintain the complement level within the district fleet. The money generated from the sale of these units is utilized to purchase the replacement units. However, the value received for sold unit is usually less than the purchase price for the new unit. The additional cash needed to complete the purchase is referred to as the Buy-back Boot.

Each buy-back purchase is analyzed to determine how the purchase compares with the historical trend of the program. The analysis computes the expected cash flow of equipment as it relates to a direct purchase and also under the buy-back option.

The analysis calculates the future value of the required replacement (boot) cost as if the funds were deposited in a savings account to earn interest until the equipment needs to be replaced under the direct purchase bid. Actual purchase prices, buy-back values, replacement costs and the useful life of the equipment are utilized to conduct the analysis. The analysis is performed using the replacement (boot) cost for the specific bid along with a five-year average of the boot amounts.

The interest rate utilized to compute the future value of the buy-back boot is based on the interest rate received on Investment of Idle Monies, rounded to the nearest 1/2 percent. This rate is obtained from the state of Idaho Treasurer's Office. The duration of the buy-back proposal is considered in determining the interest rate used in the analysis.

The direct purchase option analysis takes into account the future value of the initial purchase cost as well as the cash received when the unit is sold at the end of its useful life. For analysis purposes, a residual value of 20% will be used. Additionally, the future value of the annual repair costs after the extended warranty is exhausted is also calculated and included in the total cost analysis for the direct purchase option. These repair costs will be determined by utilizing historical data obtained from ITD's Equipment Management System. Only data with an age within the useful life of the unit will be utilized to calculate repair costs.

Equipment will be acquired under the option with the least cost. The equipment will be replaced and purchased with the buy-back option as long as the future value (cost) analysis for the buy-back boot is less than the direct purchase option. If the computed value of the buy-back option is greater than the direct purchase option, then the decision to not replace the equipment currently on hand will be made.

Refer to Figure 700-3.

Figure 700-2
BACKHOE/LOADER

VENDOR	Schloffman Tractor Ford 555 E	Coeur d'Alene Tractor Ford 575E	Pioneer Equipment Case 580 Super L	CESCO John Deere 310E	Idaho Tractor Case 580 Super L
Direct Purchase Price	\$ 51,943.00	\$ 53,980.00	\$ 50,800.00	\$ 51,499.00	\$ 53,977.00
Annual Depreciation	\$ 3,895.73	\$ 4,048.50	\$ 3,810.00	\$ 3,862.43	\$ 4,048.28
Monthly Depreciation	\$ 324.64	\$ 337.38	\$ 317.50	\$ 321.87	\$ 337.36
Monthly Cost for Ownership	\$ 324.64	\$ 337.38	\$ 317.50	\$ 321.87	\$ 337.36
Buy-Back Purchase Price	\$ 51,943.00	\$ 53,980.00	\$ 50,800.00	\$ 51,499.00	\$ -
Buy-Back Amount	4/1/99 7 \$ 47,215.00	7 \$ 49,500.00	7 \$ 50,800.00	7 \$ 51,500.00	7 \$ -
Monthly Cost for (Assumed Delivery of April 1, 1998)	4/1/99 7 \$ 394.00	7 \$ 373.33	7 \$ -	7 \$ (0.08)	7 \$ -
1/2% Monthly Loss of Interest Cost Compared to Lowest Bid	\$ 5.72	\$ 15.90	\$ -	\$ 3.50	\$ -
Total Average Monthly Cost for Buy-Back Units	\$ 399.72	\$ 389.23	\$ -	\$ 3.41	\$ -
Lowest Monthly Cost Bid	\$ 324.64	\$ 337.38	\$ -	\$ 3.41	\$ 337.36

740.0 EQUIPMENT REPLACEMENT & PROCUREMENT**740.1 Equipment Request Lists**

Approximately one month prior to the start of the fiscal year, the individual districts are furnished with a Road Equipment Request (ITD-738) form and the amount of their allocation. This form is utilized by the districts to inform the Maintenance Section of how they wish to spend their allocated money for equipment replacement. The Complement, On-hand, Useful Life, and Unit Cost columns of the form are completed by the Maintenance Section for each district. The “No. Purchase This Year, Total Cost This Year, and Comments” columns are to be completed by the district and the form returned to the Maintenance Section prior to the start of the fiscal year. The “Comments” column is to contain the equipment number of the unit(s) to be replaced.

In addition to completing the ITD-738, the district is required to complete a Form ITD-230A, Surplus Property Disposal Request, for each unit identified in the “Comments” column of the ITD-738. (See Section 780.0).

Refer to Figure 700-4.

740.1.1 Replacement Criteria

Units identified for replacement on Form ITD-738 shall meet the replacement guidelines for age stated in Figure 700-5. Units not meeting the replacement criteria established are eligible for replacement if supporting documentation describing the unit’s condition and reason for early replacement is provided and approved by the Equipment Superintendent.

740.1.2 Documentation

All documentation for equipment sold prior to replacement guidelines will be retained by the Equipment Superintendent and the requesting district. Documentation shall consist of but not limited to the justification for early disposal and equipment repair records.

740.2 Purchasing Schedule

A purchasing schedule is developed from the district equipment requests. This schedule is distributed to the districts to inform them when their equipment can be expected to arrive in the district.

The purchasing of equipment should be scheduled so the various types of equipment are received prior to the seasonal use of the equipment. Trucks should be scheduled so they are received in the latter part of the fiscal year and loaders and backhoes are to be purchased so delivery is made prior to November.

Figure 700-3
BACKHOES
PURCHASE/BUY-BACK ANALYSIS

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
on 1, Direct Purchase -1998 Cost \$50,780												Sell @ Salvage Value \$10,156
Repair Costs						\$737	\$661	\$1,176	\$749	\$884	\$755	\$672 \$5,634
on 2, Buy-Back -1998 Cost \$50,780												
Sale of Asset	\$50,038	\$50,913	\$51,788	\$52,663	\$53,538	\$54,413	\$55,288	\$56,163	\$57,038	\$57,913	\$58,788	\$59,663
Unit Acquisition Cost	\$51,655	\$52,530	\$53,405	\$54,280	\$55,155	\$56,030	\$56,905	\$57,780	\$58,655	\$59,530	\$60,405	
Net Cash Outlay	\$1,617	\$1,617	\$1,617	\$1,617	\$1,617	\$1,617	\$1,617	\$1,617	\$1,617	\$1,617	\$1,617	

P & I	Pim	Int.
\$ 2,914	\$ 1,617	\$ 1,297
\$ 2,762	\$ 1,617	\$ 1,145
\$ 2,618	\$ 1,617	\$ 1,001
\$ 2,482	\$ 1,617	\$ 865
\$ 2,353	\$ 1,617	\$ 736
\$ 2,230	\$ 1,617	\$ 613
\$ 2,113	\$ 1,617	\$ 496
\$ 2,003	\$ 1,617	\$ 386
\$ 1,898	\$ 1,617	\$ 281
\$ 1,800	\$ 1,617	\$ 183
\$ 1,706	\$ 1,617	\$ 89

\$ 24,879	\$17,787	\$ 7,092
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Add												
Purch Cost	\$50,780											
Invest Cost	\$50,780	\$17,787										
Interest Cost		\$7,092										
Sale of Asset	\$10,156											
Net Cost to ITD	\$40,624											
Repair Costs	\$5,634											
Total Cost	\$46,258											
With Interest	\$50,780	\$17,787	\$7,092	\$59,663								
				\$15,996								

Conclusion: Based on the above computation, the Buy-Back Option is more cost effective in terms of net cash outlay. Over a 12 year period the Direct Purchase Option will cost ITD \$45,702 versus \$15,996 for the Buy-Back Option. If additional expenses for repair costs (parts & labor) are added, the cost savings of the Buy-Back Option is even greater.

ATTACHMENT B

Figure 700-4

Sheet 1 of 3

ROAD EQUIPMENT REQUEST F.Y. 20XX					
TYPE OF EQUIPMENT CATEGORY NUMBER	COMPLEMENT	ON-HAND	NO. PURCH. THIS YEAR	UNIT COST	TOTAL COST THIS YEAR
SEDANS 100				\$15,500.00	
PICKUPS 1/2 T 200				\$15,000.00	
PICKUPS 1/2 T, AUTO TRANS 200				\$16,000.00	
PICKUPS 3/4 T 204				\$18,500.00	
TRUCKS 1 T 214				\$35,500.00	
VANS 216				\$20,800.00	
SUBURBANS 218				\$34,000.00	
TRUCKS DUMP 1 T 220				\$45,000.00	
PICKUPS 4X4 221				\$22,500.00	
STENCIL TRUCK 223				\$75,000.00	
FLATBED TRUCK 324				\$50,000.00	
WATER TRUCK 327				\$80,000.00	
CRASH TRUCK 326				\$65,800.00	
UTILITY TRUCK 336				\$50,000.00	
WEED SPRAY TRUCK 337				\$105,000.00	
SMALL AERIAL TOWER 338				\$60,000.00	
LARGE AERIAL TOWER 338				\$115,000.00	
DIGGER DERRICK/AERIAL TOWER				\$170,000.00	
SCALE/POST DRIVER TRUCK 346, 347				\$75,000.00	
TRACTOR TRUCK 376				\$72,000.00	
WATER TRUCK 393				\$120,000.00	
MULTI PURPOSE TRUCK 392				\$87,000.00	
BACKHOE 401				\$53,500.00	
LOADER TRACTOR TYPE 402				\$42,000.00	
LOADER, SKID STEER 404				\$42,000.00	
LOADER 3 CY 406				\$81,000.00	
LOADER 4 CY 407				\$142,000.00	
MOTORGRADER 510				\$190,000.00	
PULL WINDROWER 610				\$5,500.00	
PLOW UNDERBODY 705				\$8,500.00	
PLOW WING 706				\$9,000.00	
PLOW V-TYPE 710				\$15,000.00	
PLOW ONE-WAY 714				\$5,000.00	
PLOW TWO-WAY 715				\$6,500.00	
COMPRESSOR 0 - 5 CFM 799				\$1,800.00	
COMPRESSOR 161 + CFM 802				\$15,000.00	
JACK HAMMER 804				\$1,675.00	
PAVEMENT BREAKER 805				\$900.00	
SANDBLASTER 806				\$3,000.00	

Figure 700-4 (Contd)

Sheet 2 of 3

ROAD EQUIPMENT REQUEST F.Y. 20XX					
TYPE OF EQUIPMENT CATEGORY NUMBER	COMPLEMENT	ON-HAND	NO. PURCH. THIS YEAR	UNIT COST	TOTAL COST THIS YEAR
					COMMENTS
HOT PATCHER, TRUCK MOUNT 812				\$58,600.00	
HOT PATCHER, TRAILER MOUNT 812				\$35,000.00	
TAR KETTLE 813				\$27,500.00	
CRACK FILLER 814				\$35,000.00	
HOT PATCHER, DUMP PATCHER				\$40,000.00	
BOAT 826				\$6,500.00	
BOAT MOTOR 827				\$3,500.00	
BOAT TRAILER 828				\$1,000.00	
CONCRETE MIXER 831				\$3,500.00	
MORTAR MIXER 832				\$3,500.00	
CONCRETE SAW 833				\$2,750.00	
CRACK ROUTER 836				\$8,000.00	
MISC. (COMPACTOR, WACKER) 837				\$2,000.00	
EARTH AUGER/DRILL 841, 846				\$6,000.00	
DIAMOND DRILL 844				\$5,000.00	
FORKLIFT, SMALL 848				\$27,500.00	
FORKLIFT, MEDIUM 849				\$45,000.00	
FORKLIFT, LARGE 850				\$85,000.00	
YARD CRANE 851				\$7,500.00	
YARD TUG 852				\$4,500.00	
BELT LOADER 861				\$60,000.00	
LAWN TRACTORS 864				\$16,500.00	
LAWN MOWERS 865				\$1,000.00	
SICKLE MOWER 866				\$8,500.00	
BRUSH CHIPPER 868				\$26,500.00	
SLOPE MOWER 869				\$25,000.00	
FLAIL MOWER 870				\$22,000.00	
WATER PUMP UP TO 3-1/2" 872				\$1,500.00	
WATER PUMP 4" AND UP 873				\$5,000.00	
SMALL VIBRATING ROLLER 880				\$32,500.00	
LARGE VIBRATING ROLLER 880				\$75,000.00	
EXCAVATORS 902				\$145,000.00	
MECHANICAL STREET SWEEPER 907				\$130,000.00	
TOW TYPE SWEEPER 908				\$16,500.00	
SELF-PROP BROOM 909				\$31,500.00	
VACUUM STREET SWEEPER 910				\$140,000.00	
DEICER TANK, 1000 GALLON 911				\$11,500.00	

Figure 700-4 (Contd)

[illegible]

740.3 Specification Development

The Maintenance Section is responsible for developing bid specifications for procurement of vehicles and equipment. After developing a purchasing schedule, specifications are developed with assistance from the district(s) that are to receive the equipment. All equipment requests for like equipment are pooled and ordered simultaneously. Therefore, specifications for equipment are standardized between all districts.

740.3.1 Standard Vehicle Equipment

All passenger type vehicles and trucks will be equipped with air conditioning, cruise control, tilt wheel, and split bench front seats to reduce driver fatigue. Other vehicle options may be specified if it has been determined by the Maintenance Section that it would be in the best interest of the Department in terms of cost and benefits to the operator.

Construction equipment such as motor graders, articulated loaders, backhoes, crawler tractors, farm type tractors, self-propelled brooms, skid-steer loaders and forklifts will be equipped with operator cabs that include heater and air conditioning.

Automatic transmissions will be purchased in 20% of the ½ ton pickups for any given year. The additional cost of the automatic transmission will be charged to the individual district requesting the automatic. It will be up to the district to request the automatic transmission.

Consideration will be given to equipping single axle dump/sander snow plow trucks with automatic transmissions. Only trucks utilized on interstate highways with high traffic volumes in densely populated areas will be considered (Coeur d'Alene, Boise, Caldwell, Pocatello, and Idaho Falls). The requesting district's equipment budget allotment will be charged for the additional cost of the transmission.

Automatic transmissions in other types of equipment will be given consideration if any of the following conditions exist:

1. If the unit comes equipped with an automatic transmission at no extra cost.
2. If vehicle design is not suitable for a standard transmission.
3. If working environment requires the slow even control of movement which an automatic transmission can provide.

741.0 AIR QUALITY

The Department will purchase vehicles and road equipment that can provide reduced vehicle emissions. The reduction in emissions will be accomplished by purchasing alternative fueled vehicles that can operate on alternative fuel sources that are readily available within the infrastructure of Idaho. Vehicles equipped with bi-fuel engines capable of running on both 100% gasoline and E-85 (85% ethanol and 15% gasoline) will be purchased when available. These will include sedans, and ½ ton pickups and others as they are developed and made available.

The use of hybrid vehicles will also be increased where applicable and the Department will purchase diesel powered units that can operate on B20 bio-diesel. The purchase and use of these types of vehicles will also assist the Department in meeting the requirement of the Energy Policy Act.

As vehicle emissions are the not only source of degrading air quality, the Department will also specify and purchase PM-10 certified road sweeping equipment. This equipment will be purchased on an as needed replacement basis and existing equipment will not be retrofitted at this time.

744.0 MANAGEMENT SYSTEM IDENTIFICATION

Vehicles and equipment are identified in the Equipment Management System (EMS) by Class, Category, and Equipment Number. The Maintenance Section is responsible for assigning this information at the time bid specifications are developed for these units. This information is entered into the EMS by the Maintenance Section along with a description of the equipment, and the acquisition cost of the equipment as it is received. Refer to Figure 700-5 for a listing of the various equipment Categories and Classes of equipment.

EQUIPMENT CATEGORIES, LIFE, RENTAL RATE

Category	Class	Description	Meter Type	Yearly Days	Target Utilization Miles/Hours	Replacement Life Years	Mileage
100	ZZ	Automobiles	Miles	144	12,000 mi.	8	100,000
102	ZY	Automobiles, Electric	Miles	144	12,000 mi.	8	100,000
200	ZA	Pickup <6200 GVW, Small	Miles	144	12,000 mi.	8	100,000
202	ZP	Pickup <6200 GVW, Large	Miles	144	15,000 mi.	8	125,000
204	ZQ	Pickup, 6300-9000 GVW	Miles	144	15,000 mi.	8	125,000
206	ZT	Truck, POE Rover	Miles	144	25,000 mi.	5	125,000
207	ZX	Pickup 4 x 4, Small	Miles	144	15,000 mi.	8	125,000
208	XK	Pickup 4 x 4, Large	Miles	144	12,000 mi.	8	100,000
209	XL	Truck, 4 x 4, Utility	Miles	144	12,000 mi.	8	100,000
210	ZB	Vans, 4 x 2, Small	Miles	144	12,000 mi.	8	100,000
211	XM	Vans, 4 x 2, Full Size	Miles	144	12,000 mi.	8	100,000
212	XJ	Vans, 4 x 2, Testing	Miles	144	15,000 mi.	8	125,000
214	CK	Vans, 4 x 2, Photolog	Hours	144	600 hrs.	8	200,000
215	T2	Vans, 4 x 2, T2 Program	Miles	144	12,000 mi.	8	10,000
218	ZC	Suburbans 4 x 4	Miles	144	12,000 mi.	8	100,000
220	XA	Pickup, >9000 GVW, Reg. Cab	Miles	144	12,000 mi.	8	100,000
221	XB	Pickup, >9000, Crew Cab	Miles	144	15,000 mi.	8	125,000
222	XC	Truck, >9000, Flatbed	Miles	144	12,000 mi.	8	100,000
223	XD	Truck, 9000 - 15,000 GVW Utility	Miles	144	12,000 mi.	8	100,000
224	XE	Truck, Incident Response Unit	Miles	144	30,000 mi.	5	150,000
225	XF	Truck >15,000 GVW Utility	Miles	144	12,000 mi.	12	150,000
226	XG	Truck, <15,000 GVW, Reg. Cab, Dump	Miles	144	12,000 mi.	8	100,000
227	XH	Truck, <15,000 GVW, Crewcab, Dump	Miles	144	12,000 mi.	8	100,000
228	XI	Truck, >15,000 GVW Dump	Miles	144	12,000 mi.	12	150,000
230	TS	Stencil Truck	Hours	100	400 hrs.	8	100,000
TRUCKS, 20-35,000 LB GVW							
321	AB	Dump, Patrol 4x2 Diesel Truck	Hours	120	450 hrs.	12	200,000
322	AC	Distributor 4x2 Truck	Hours	24	200 hrs.	24	300,000
324	AD	Flatbed 4x2 Truck	Hours	30	300 hrs.	12	200,000
326	AG	Crash Attenuator Truck	Hours	30	300 hrs.	24	300,000
327	AI	Water Truck - Diesel	Hours	30	300 hrs.	12	300,000
328	BC	De-Icer Truck	Hours	50	200 hrs.	24	300,000
329	AE	Skid Test Truck	Hours	100	400 hrs.	12	150,000
335	KA	Hot Patcher Truck	Hours	50	200 hrs.	24	300,000
336	KB	Utility 4x2, 4x4 Truck	Hours	70	500 hrs.	24	300,000
337	AF	Sprayer Truck	Hours	30	300 hrs.	12	150,000
338	KC	Aerial Tower < 30 ft. Truck	Hours	144	550 hrs.	12	150,000
339	KD	Aerial Tower > 30 ft. Truck	Hours	50	400 hrs.	12	200,000
340	KE	Digger Derrick Truck	Hours	144	550 hrs.	12	200,000
342	AH	Striping Unit Truck	Hours	120	800 hrs.	12	200,000
347	KF	Scale Test/Post Driver-Diesel Truck	Hours	30	300 hrs.	24	300,000
352	CC	Snow Plow V and Wing Truck	Hours	20	25 hrs.	20	
364	AJ	Rotary Snow Plow Truck	Hours	20	75 hrs.	20	

EQUIPMENT CATEGORIES, LIFE, RENTAL RATE

Category	Class	Description	Meter Type	Yearly Target Utilization Days	Miles/Hours	Replacement Life Years	Mileage
TRUCKS, 3-AXLE 43 - 65,000 LB GVW							
372	AK	Sander/Dump Truck	Hours	120	800 hrs.	12	250,000
373	KG	Rockbed Truck	Hours	120	800 hrs.	12	250,000
374	AY	Sander/Dump Truck w/Wing Plow	Hours	120	800 hrs.	12	250,000
375	AL	Core Drill Truck	Hours	30	300 hrs.	12	300,000
376	AM	Tractor Truck	Hours	100	600 hrs.	12	300,000
379	KH	Snooper Truck	Hours	100	450 hrs.	12	
390	BX	Distributor > 1300 Gallons Truck	Hours	24	200 hrs.	12	300,000
392	KI	Multipurpose Truck	Hours	120	800 hrs.	12	250,000
393	KJ	Water Truck >2500 Gallons	Hours	100	450 hrs.	12	250,000
WHEEL TRACTORS							
401	AP	Backhoe	Hours	50	350 hrs.	12	
402	AN	Loader 1/2 C.Y.	Hours	20	150 hrs.	12	
404	LS	Loader Skid-Steer	Hours	30	250 hrs.	12	
406	LQ	Loader 1-1/2 - 2 C.Y.	Hours	30	250 hrs.	15	
407	LI	Loader 2 - 3 C.Y.	Hours	60	400 hrs.	15	
408	LL	Loader 4 C.Y.	Hours	60	400 hrs.	15	
CRAWLER TRACTOR							
424	AQ	Dozer, Medium	Hours	60	400 hrs.	15	
426	CF	Dozer, Heavy	Hours	60	500 hrs.	15	
MOTORGRADER							
506	AU	Milling Machine	Hours	30	100 hrs.	15	
508	AR	Motor Grader, 6 x 4	Hours	50	300 hrs.	15	
510	AS	Motor Grader, 6 x 6	Hours	50	300 hrs.	15	
600	PH	Pull Grader	Hours	20	100 hrs.	15	
610	PG	Pull Windrower	Hours	10	50 hrs.	15	
SNOWPLOWS							
705	ZI	Under Body SnowPlow	None	None Required		12	
706	ZI	Wing Plow, Grader Mt.	None	None Required		12	
707	ZI	Wing Plow, Truck Mt.	None	None Required		12	
710	ZI	Snow Plow, V-Type, Fixed	None	None Required		12	
711	ZI	Snow Plow, V-Type, Folding	None	None Required		12	
713	PF	Rotary Snow Plow, Loader Mounted	Hours	20	75 hrs.	12	
714	ZI	Snow Plow, One-Way	None	None Required		12	
715	ZI	Snow Plow, Two-Way	None	None Required		12	

EQUIPMENT CATEGORIES, LIFE, RENTAL RATE

Category	Class	Description	Meter Type	Yearly Target Utilization Days	Miles/Hours	Replacement Life Years	Mileage
AIR EQUIPMENT							
799	ZI	Compressor 0-50 CFM	None	None Required		12	
800	AT	Compressor 50-160 CFM	Hours	20	100 hrs.	12	
802	AA	Compressor 160 + CFM	Hours	25	150 hrs.	12	
804	ZI	Jackhammer/Rockdrill	None	None Required		8	
805	ZI	Breaker (Pavement), Tamper	None	None Required		8	
806	ZI	Sandblaster	None	None Required		12	
ASPHALT EQUIPMENT							
810	ZI	Distributor < 5000 Litre (1300 Gallons)	None	None Required		12	
811	ZI	Distributor > 5000 Litre (1300 Gallons)	None	None Required		12	
812	AW	Hot Patcher, Truck Mount	Hours	20	100 hrs.	12	
813	AV	Distributor, Tow Type	Hours	25	120 hrs.	12	
814	CV	Crack Filler	Hours	25	120 hrs.	12	
815	CY	Tail Gate Mixer/Patcher	Hours	15	50 hrs.	12	
816	AX	Portable Asphalt Mixer, Tow Type	Hours	15	50 hrs.	12	
818	CA	Laydown Machine, Self-Propelled	Hours	50	350 hrs.	15	
819	CH	Laydown Machine, Pull Type	Hours	25	120 hrs.	13	
821	FA	Pavement Testing Trailers	Hours	100	350 hrs.	12	
822	ZI	Chip Spreader, Pull Type	None	None Required		12	
823	AZ	Chip Spreader, Self-Propelled	Hours	15	50 hrs.	12	
BOATS AND BARGES							
825	CN	Barge	Hours	5	10 hrs.	10	
826	CJ	Boat	Hours	15	60 hrs.	10	
827	ZI	Boat Motor	None	None Required		10	
828	ZI	Boat Trailer	None	None Required		10	
CONCRETE EQUIPMENT							
831	BA	Concrete Mixer	Hours	10	40 hrs.	12	
832	BU	Mortar Mixer	Hours	10	40 hrs.	12	
833	BB	Concrete Saw	Hours	10	40 hrs.	10	
834	BV	Concrete Cutoff Saw	Hours	10	40 hrs.	10	
835	CQ	Scabbler	Hours	10	40 hrs.	10	
836	CR	Crack Cleaner/Router	Hours	15	60 hrs.	8	
837	ZI	Misc. Compactors (Screed, Trowel, Wacker, Compactor)	None	None Required		8	
EARTH DRILLING EQUIPMENT							
841	ZI	Earth Drilling Auger	None	None Required		10	
844	ED	Diamond Drill	Hours	5	10 hrs.	12	
846	DA	Abrasive Drill	Hours	20	100 hrs.	10	

EQUIPMENT CATEGORIES, LIFE, RENTAL RATE

Category	Class	Description	Meter Type	Yearly Target Utilization Days	Miles/Hours	Replacement Life Years	Mileage
FORKLIFTS, YARD CRANES							
847	FT	Forklift, Truck Mount	Hours	80	500 hrs.	12	
848	FS	Forklift, <4,000 lb.	Hours	30	300 hrs.	13	
849	FM	Forklift, 8,000 - 10,000 lb.	Hours	90	400 hrs.	13	
850	FL	Forklift >10,000 lb.	Hours	90	400 hrs.	13	
851	WC	Yard Crane	Hours	30	200 hrs.	12	
852	WT	Yard Tug	Hours	30	200 hrs.	12	
853	WF	Electric Warehouse Equipment	Hours	30	100 hrs.	12	
LOADER, CONVEYOR							
860	BE	Conveyor (Belt) Screener Plant	Hours	30	150 hrs.	10	
861	BG	Loader, Belt or Bucket	Hours	30	150 hrs.	10	
MOWERS							
864	MT	Self-Propelled Lawn Tractor	Hours	20	100 hrs.	5	
865	ZI	Lawn Mower, Push Type/Self-Propelled	None	None Required		5	
866	ZI	Road Side Mower, Sickle	None	None Required		12	
867	ZI	Road Side Mower, Rotary	None	None Required		12	
868	CB	Chipper, Brush	Hours	30	300 hrs.	10	
869	ZI	Road Side Mower, Slope	None	None Required		12	
870	ZI	Road Side Mower, Flail	None	None Required		12	
WATER PUMPS							
872	BJ	Water Pump, Light Duty < 3-1/2"	Hours	10	20 hrs.	13	
873	BI	Water Pump, Heavy Duty 4" and Up	Hours	10	20 hrs.	13	
ROLLERS							
878	BQ	Roller, Pneumatic	Hours	10	50 hrs.	12	
879	BK	Roller, Steel Flat, Self-Propelled	Hours	20	200 hrs.	12	
880	BL	Roller, Small Dual Drum Vibrating Steel	Hours	20	200 hrs.	12	
881	BN	Roller, Large Single Drum Vibrating Steel	Hours	30	250 hrs.	12	
SANDERS							
884	ZI	Tow-Type Sander	None	None Required		7	
885	ZI	5 C.Y. Slide-In Sander	None	None Required		12	
886	ZI	5 C.Y. Truck Mounted Sander	None	None Required		12	
887	ZI	9 C.Y. Truck Mounted Sander	None	None Required		12	
888	ZI	9 C.Y. Slide-In Sander	None	None Required		12	
889	ZI	Salt Spreader	None	None Required		7	

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FIGURE 700-5

EQUIPMENT CATEGORIES, LIFE, RENTAL RATE

Category	Class	Description	Meter Type	Yearly Target Utilization Days	Miles/Hours	Replacement Life Years	Mileage
SHOVELS							
902	DL	Excavators	Hours	100	750 hrs.	15	
905	DT	Trencher	Hours	10	50 hrs.	15	
906	ZI	Motorgrader Attachment	None	None Required		12	
SWEEPERS							
907	CG	Street Sweeper Mechanical	Hours	50	350 hrs.	13	
908	CM	Tow-Type Sweeper	Hours	20	120 hrs.	12	
909	CL	Self-Propelled Sweeper	Hours	30	250 hrs.	10	
910	CI	Street Sweeper Vacuum	Hours	50	350 hrs.	13	
WATER TANKS							
911	ZI	<1500 Gallon Skid-Mt De-Icer Tank	None	None Required		10	
912	ZI	> 1500 Gallon Skid-Mt Water Tank	None	None Required		12	
913	ZI	Weed Sprayer Tank	None	None Required		12	
TRAILERS							
915	ZI	Trailer, Semi Low-Boy (Flatbed)	None	None Required		12	
916	ZI	Trailer, Semi Belly-Dump	None	None Required		12	
918	ZI	Test Camper	None	None Required		8	
919	TB	Trailer, Test, and Office	Hours	150	950 hrs.	12	
920	BR	Trailer, Tilt Bed/Ramp	Hours	30	150 hrs.	12	
921	TU	Trailer, Utility, 2 & 4-Wheel	Hours	25	120 hrs.	12	
922	BS	Trailer, Sign, Warning	Hours	25	120 hrs.	12	
923	BM	Trailer, Message	Hours	25	250 hrs.	10	
MISCELLANEOUS							
926	LP	Light Plant	Hours	10	40 hrs.	10	
930	ZI	Generators	None	None Required		10	
931	WE	Welder	Hours	30	200 hrs.	10	
932	GE	Skid Mt. Generator	Hours	180	1500 hrs.	3	
953	ZI	Grain Drill, Harrow	None	None Required		15	
954	ZI	Chain Saw	None	None Required		5	
956	ZI	Tamper, Hydraulic	None	None Required		8	
958	ZI	Misc. Yard Equipment	None	None Required		5	
963	BZ	Hydroseed/Mulcher	Hours	10	50 hrs.	15	
965	MS	Mini-Striper	Hours	50	300 hrs.	8	
966	BY	Hand Striper	Hours	10	50 hrs.	10	
967	ZI	Sign Washer/Sprayer	None	None Required		8	
971	SR	Stripe Remover	Hours	5	25 hrs.	10	
972	BW	ATV (4 Wheeler or Motor Vehicle)	Hours	50	200 hrs.	5	

745.0 BID AND AWARD

Bid specifications are submitted to the Procurement and Material Management (P&MM) section for the bid process. For all requisitions in excess of \$25,000, the specifications are forwarded to the Division of Purchasing (DOP) for bidding. The Division of Purchasing is responsible for responding to all questions regarding the bid and the opening of the bids at the stated time.

After the bids have been received and opened by the DOP, they are then returned to the Maintenance Section for evaluation. The Maintenance Section makes a recommendation to the DOP as to the successful responsive bidder. The DOP in turns notifies all responding bidders of the intent to award and then notifies the P&MM section to forward a Purchase Order to the successful responsive bidder.

746.0 EQUIPMENT DELIVERY AND INSPECTION

As part of the bid specifications, the Maintenance Section will determine the delivery location of the vehicles and equipment. All light duty vehicles and truck cab and chassis will be delivered to headquarters so that licensing can be accomplished by the Headquarter's Garage. All equipment that is to be accompanied with operator training will be delivered to the district requesting the equipment.

746.1 Headquarters

All equipment delivered to headquarters will be inspected by Maintenance Section personnel for specification compliance. If the units meet specifications, they will then be tagged with the appropriate district and equipment number. The district will be notified that the unit is ready to be picked up and transferred to their location

Refer to Figure 700-6.

746.2 Districts

Equipment that is delivered to the district will be inspected by District Shop personnel for specification compliance. The district is required to contact the Maintenance Section for a copy of the bid specifications so the inspection can be performed. Inspection time shall be charged to Activity EB84.

Once the district has determined that the unit complies with the specifications, the specifications are to be signed by the person completing the inspection along with the corresponding serial and equipment numbers of the unit. The completed specifications are to be returned to the Maintenance Section along with the completed Equipment Specification Sheet, ITD-256.

Refer to Figure 700-6.

For all equipment that does not meet specifications, the Headquarters Garage or district is to inform the Maintenance Section of the specification deviations. The Equipment Superintendent will contact the vendor and inform them of the non-compliance and that the units will not be paid for until all deviations are corrected.

The person completing the equipment inspection is not to sign the specifications until the unit is modified to meet the specifications. At this time final payment can be made for the unit.

750.0 EQUIPMENT TRAINING

750.1 Operator

Equipment operator training is provided to Department personnel on an on-going basis and as new equipment is received. New equipment training is provided by the vendor supplying the equipment while general operator training is developed jointly by the Division of Highways, Technical Training Group and Maintenance Section.

750.1.1 Vendor Provided

As new equipment is purchased, the Maintenance Section will require as part of the bid specifications that the successful vendor provide a minimum of 4 hours of operation training to Department personnel. Additional hours of training will be required for more technical equipment.


If additional training regarding a specific piece of equipment is required, the District Training Committee is to contact the Division of Highways Technical Training Group requesting the training in accordance to the Training Catalog. This is not limited to just new equipment but pertains to existing equipment. The Division of Highways Technical Training personnel will do everything possible to coordinate a cost effective and viable training program.

750.1.2 ITD Training

The Division of Highways Technical Training Section in conjunction with the Maintenance Section is responsible for development of the training program for equipment operator. This training is developed to include all major types of equipment.

The training will coincide with the training requirements of the Transportation Technician Series and in accordance with the guideline in the Training Catalog.

Figure 700-6

ITD-256 3-88	<u>EQUIPMENT SPECIFICATION SHEET</u>	
EQUIPMENT No. _____ YEAR _____ MAKE _____		
MODEL No. _____ SERIAL No. _____		
<u>ENGINE INFORMATION</u>		
<u>GAS</u> <u>DIESEL</u>		
MAKE _____		MAKE _____
MODEL _____		MODEL _____
SERIAL No. _____		SERIAL No. _____
NUMBER OF CYLINDERS _____		NUMBER OF CYLINDERS _____
<u>CHASSIS INFORMATION</u>		
GVW RATING _____ C.A. DIMENSIONS _____ INCHES		
WHEELBASE _____ TIRE SIZE: F _____ R _____		
TRANS. MAKE _____ MODEL _____ NO. SPEEDS _____		
REAR AXLE MAKE _____ MODEL No. _____ NO. SPEEDS _____		
<u>BODY INFORMATION</u>		
MAKE _____ MODEL _____ CAPACITY _____ BODY TYPE: _____		
HOIST MAKE _____ MODEL _____ SERIAL _____ SIZE _____		
REMARKS _____		
<u>EQUIPMENT ATTACHED</u>		
EQUIP. No. _____ YEAR _____ MAKE _____ TYPE _____		
LOADER MAKE _____ MODEL _____ SERIAL No. _____		
BROOM MAKE _____ MODEL _____ SERIAL No. _____		
DOZER MAKE _____ MODEL _____ SERIAL No. _____		
ROTARY MAKE _____ MODEL _____ SERIAL No. _____		
WINGS _____ MODEL _____ SERIAL No. _____		
OTHER _____ MODEL _____ SERIAL No. _____		
<u>USE OTHER SIDE FOR ADDITIONAL INFORMATION</u>		
INSPECTED BY: _____		
DATE: _____		
DISTRICT: _____		

750.2 Mechanic

Mechanics, Mechanic Assistants, Welder/Machinists, and Body/Fender persons, have very diverse training needs. A listing of possible courses is contained in the Training Catalog. Additional needs and training request will need to be submitted through the District Training Committee to the Training Steering Committee, allowing the DOH Training Section to identify possible training sources and needs.

750.3 Equipment Roadeo

The Maintenance Section is responsible for the continued development of an Equipment Roadeo program that is to be conducted by each district. All foremen, operators, and mechanics are encouraged to participate at the district level. Each district will organize a Roadeo to be held in the spring of each year. The three (3) highest scoring operators/mechanics along with the highest finishing foreman from each district competition will then progress to a statewide Roadeo that will rotate from district to district.

The top two (2) finishers of the statewide Roadeo will be asked to participate in a national or regional competition that is held during the Fall of each year.

760.0 EQUIPMENT MAINTENANCE**760.1 Shop Operations**

Each district is responsible for performing maintenance on the equipment assigned to the district. The Shop Superintendent is to be responsible for the daily operation of the shop facility and it is their responsibility to ensure that all equipment is maintained in an efficient and safe manner.

Since the majority of the information received that is loaded into the Equipment Management System is derived from shop operations, the accuracy of this information is critical to determining the equipment needs of the district. Therefore, the Shop Superintendent is responsible for making sure that all necessary documentation is completed accurately.

760.1.1 Job Orders

The shop Job Order is the primary document for the Equipment Management System. It documents, by unit, specific data such as what repairs were completed, who did the work and the number of hours required. This document is to be completed for all equipment repairs irregardless of whether the repair was performed in house or outsourced. This document is used to determine repair hours, type of repair, and downtime.

Refer to the Equipment Management System Manual section 30-502.02 for detailed instruction regarding the use of this document.

760.1.2 Downtime

To accurately determine the cost of repairing equipment, a record must be maintained of the amount of hours that is required to repair a piece of equipment along with the amount of hours the unit is idle waiting for service. An activity has been developed for the Equipment Management System that is to be used for charging utilization to the equipment while it sits waiting for repair. The maximum amount of time charged to each unit on a daily basis is the amount of time that the shop completing the repair is scheduled to work on a daily basis.

This information can be utilized to determine the staff requirements of the Department's repair facilities, as well as the amount of shop space required.

760.1.3 Repair Privatization

The Shop Superintendent or designee is to determine the most economical approach possible for repairing vehicles and equipment. The Shop Superintendent is to determine if the repair is to be completed by Department personnel or to have the unit repaired by a private vendor. Each repair situation is to be considered on an individual basis, but it is encouraged that the private sector be contacted on a random basis to compare the costs of privatization versus Department performed repairs.

760.1.4 EMS Activity Codes

The Equipment Management System was designed to help supervisors monitor performance and cost of the equipment fleet without an excess of paperwork. In addition, it will also assist managers in making decisions regarding preventive maintenance, utilization and replacement.

In order for the system to work, fleet information must be collected and summarized. The majority of this information has to come from the field such as which units are being repaired and what types of repairs are being made.

EMS activity codes are used to describe the kinds of repair and maintenance work being performed on vehicles and equipment. When using the activity codes, remember the following:

1. Review the activities and descriptions. Become familiar with the basic structure and descriptions.
2. Make sure the correct activity code is recorded on the job order and preventive maintenance form. If uncertain, check with the Shop supervisor.
3. The activity codes are general in nature and may not specifically define the type of work you are performing. Utilize the descriptions to assist you in determining the correct activity.

Accurate reporting is essential to making sound logical decisions regarding the management of the equipment fleet.

Refer to Figure 700-7 and the EMS Manual.

760.1.5 Satellite Mechanics

The Department maintains a full service repair facility in each of the districts. It is at these or commercial facilities that vehicle and equipment repairs are to take place. However, it is recognized that some District Maintenance facilities are located a great distance from the central repair facility. At these locations, a mechanic can be stationed to perform routine maintenance of the vehicles and equipment located at that maintenance facility. All major repairs are to be performed at the main district repair facility as these facilities have been equipped to perform this type of work.

Before placing a mechanic at one of these remote locations, the district is to conduct a cost/benefit analysis showing the additional costs to the Department for a mobile shop vehicle and required tooling along with the expected pay-back period. The Maintenance Section will review the analysis with final approval being that of the Assistant Chief Engineer (Operations).

760.1.6 Traveling Mechanics

As part of its equipment fleet, each district is to maintain a complement of at least one shop service truck. This unit is to be utilized to conduct emergency repairs of equipment at various job sites located in the district. Each vehicle will be equipped with an electric arc welder, oxy/acetylene system, and stocked with minor repair parts.

It is the responsibility of the Shop Superintendent to determine if these units are to be staffed full time or on a part time basis.

760.1.7 Service Station Operations

The Shop Superintendents are responsible for assigning duties to the personnel assigned to the District Service Station. Typical duties include routine preventive maintenance such as oil changes, chassis lube miscellaneous tire work and other duties assigned.

760.1.8 Body and Fender Repair

Clean, well maintained, and nice appearing equipment is essential in maintaining a good public image. All equipment is to be kept painted in accordance with Section 716.0 of this manual.

It is the district's responsibility to ensure that as vehicles and equipment require body and fender repair, that that repair is completed in a timely manner.

Figure 700-7
SHOP ACTIVITIES
NOVEMBER 1993

<u>DESCRIPTION</u>	<u>ACTIVITY CODE</u>	<u>DESCRIPTION</u>	<u>ACTIVITY CODE</u>
CHASSIS		POWER TRAIN	
<u>Air Brakes</u>		<u>Axles - Drive</u>	
Brake Shoes or Pads	EA11	All Components	EA 21
Other Components	EB11		
Adjust Brakes	EC11	<u>Clutch</u>	
		All Components	EA22
<u>Frame</u>		Adjust Clutch/Clutch Brakes	EB22
Frame, Cross-members	EA13		
Body Mounts, Spring		<u>Drive shafts</u>	
Hangers, Motor Mounts/ Supports, Bumper		Vehicle Driveshaft	EA23
Trailer Hitch, Spreader Hitch and Fifth Wheel	EB13	<u>Power Take off</u>	
		All Components	EA24
<u>Hydraulic Brakes</u>		<u>Transmission Repair</u>	
Brake Shoes or Pads	EA14	Transmission	EA25
Other Components	EB14	Transfer Case	EB25
Adjust Brakes	EC14	Torque Converter	EC25
Computer Control System	ED14	Adjust Transmission	ED25
<u>Steering</u>		<u>Transmission Replace</u>	
All Components	EA15	Replace Transmission	EA26
<u>Suspension</u>		<u>Heavy Eq. Torque Converter</u>	
All Components	EA16	Torque Converter	EA27
<u>Wheel</u>		POWER PLANT	
Wheel Bearings and Seals	EA17	<u>Air Intake</u>	
Other Components	EB17	All Components	EA31
<u>Alignment</u>		<u>Cooling System</u>	
All Wheel Alignment	EA18	Water Pump	EA32
		Radiator	EB32
		Other Components	EC32
		<u>Exhaust System</u>	
		Muffler	EA33
		Other Components	EB33

Figure 700-7 (Cont'd)
SHOP ACTIVITIES
NOVEMBER 1993

DESCRIPTION	ACTIVITY CODE	DESCRIPTION	ACTIVITY CODE
POWER PLANT (cont'd)		ELECTRICAL (cont'd)	
<u>Fuel System</u>		<u>Lighting System</u>	
All Components	EA34	Emergency Flashing Lights	EA45
		Wiring	EB45
<u>Power Plant Repair</u>		Standard Lights	EC45
Short Block	EA35		
Complete Overhaul	EB35	<u>Engine Belts</u>	
Valve Job	EC35	Belts, Idler Pulleys, &	EA46
Camshaft	ED35	Adjustment Brackets	
Timing Chain, Gears,	EE35		
Engine Drive Components		CAB AND BODY	
Lubrication System	EF35	<u>Air Conditioning</u>	
Gaskets and Seals	EG35	All Components	EA51
<u>Power Plant Replacement</u>		<u>Cab/Body</u>	
Replace Engine	EA36	Body Panels and Components	EA52
		Windshields & Glass Work	EB52
<u>Turbo and Super Charger</u>			
All Components	EA37	<u>Cab/Heating, Ventilation</u>	
		All Components	EA56
<u>Retarders</u>			
All Components	EA38	<u>Interior</u>	
		All Components	EA57
ELECTRICAL			
<u>Battery</u>		MISCELLANEOUS	
All Components	EA41	<u>Accessories</u>	
		All Components	EA61
<u>Charging System</u>			
All Components	EA42	<u>Broom and Roller Components</u>	
		All Components	EA62
<u>Cranking System</u>			
All Components	EA43	<u>Chains, Sprockets</u>	
		All Components	EA63
<u>Ignition System</u>			
Tune-Up	EA44	<u>Cleaning/Painting</u>	
Computer Control System	EB44	Painting	EA64
Analyzer Time, Road Testing	EC44	Steam Cleaning	EB64
		Sand Blasting	EC64

Figure 700-7 (Cont'd)
SHOP ACTIVITIES
NOVEMBER 1993

DESCRIPTION	ACTIVITY CODE	DESCRIPTION	ACTIVITY CODE
MISCELLANEOUS (cont'd)		MISCELLANEOUS (cont'd)	
<u>Crawler Undercarriage</u>		<u>Emission Testing</u>	
All Components	EA65	All Tests	EA78
<u>Water Pump, Air Compressor</u>		<u>Emission Control System</u>	
All Components	EA66	All Components	EA79
		Adjust System	EB79
<u>Hydraulic Components</u>		PREVENTATIVE MAINTENANCE	
Hydraulic Pump	EA67	<u>PM Type "A"</u>	
Control Valves	EB67	Motor Oil Change	EA81
Other Components	EC67	Transmission Oil Change	EB81
Hydraulic Sys. Troubleshooting	ED67	Differential Oil Change	EC81
		Hydraulic Oil Change	ED81
<u>Attached Equipment</u>		<u>PM Type "B"</u>	
All Components	EA68	Chassis Lube	EA82
<u>Asphalt Equipment</u>		<u>PM Type "C"</u>	
Distributor	EA69	90 Day Service	EA 83
Crack Sealer	EB69		
Recycler & Hot Patchers	EC69		
<u>Seasonal Conversion</u>		<u>PM Type "D"</u>	
All Components	EA71	Major Inspection and Minor Adjustment	EA84
<u>Building Equipment</u>		New Equipment Inspection and Adjustments	EB84
All Equipment	EA72	Aerial Equipment, Major Inspection & Minor Adjustments	EC84
Striping and Week Sprayer			
<u>Units Maintenance</u>		RECYCLING	
Striping and Weed Sprayer	EA74	Recycling Oil and Oil Filters	EA89
Maintenance by Operator			
<u>Tires</u>		DOWNTIME	
Tires	EA75	Labor	EA91
<u>Mechanic Travel</u>		*Note*	
Mechanic Travel	EA76	EA72, EA77, EA80 and EA89 ARE ONLY REPORTED ON TIMESHEETS. EA74, EA75 & EC84 CAN BE REPORTED ON TIMESHEETS OR JOB ORDERS.	
<u>Service Man/Operator</u>			
Minor Maintenance/Cleaning/Washing	EA77		

760.2 Major Repair/Overhaul

For equipment needing major repairs or overhauls, an ITD-5112 must be submitted to the Equipment Superintendent for his approval prior to making repairs. Refer to Figure 700-8.

760.3 Preventive Maintenance

The preventive maintenance program establishes uniform operating procedures throughout the state for the following:

- Lubrication, cleanup, and inspection of vehicles at scheduled intervals. Each supervisor should set a time (two hours a week should be sufficient) to be used for equipment maintenance, cleanup, and safety inspections.

Refer to Figures 700-9 and 700-10.

- General service and tune-up of vehicles at scheduled intervals.
- Reporting vehicle and equipment deficiencies.

760.3.1 Theory

An important element of the Maintenance management program is the planning and scheduling of periodic preventive maintenance services on equipment. The purpose of preventive maintenance is to keep equipment in a safe and serviceable condition and to detect and correct minor deficiencies before they develop into costly repairs and costly downtime of crews.

Effective and economic preventive maintenance services require a systematic scheduling program that makes equipment available for mechanical inspections, lubrications, adjustments, and necessary repairs at predetermined intervals, minimizing downtime and resultant costly disruptions of work schedules due to equipment failures. Be aware that there is an economical point, at which the random failure of equipment can be reduced by preventive maintenance. Experience indicates that the optimum ratio is three scheduled services to one emergency repair, excluding tire and battery repair. At this rate, approximately 75 percent of the work can be planned and scheduled.

760.3.2 Objectives

The objectives of the preventive maintenance program are to increase utilization and minimize downtime; detect abnormal conditions or deficiencies before breakdown occurs; provide a method for scheduling services and routine repairs; and provide a uniform system for reporting and recording work accomplished.

ITD-5112 3-91

REQUEST FOR MAJOR EQUIPMENT REPAIR

EQUIPMENT NO.: _____ DIST. NO.: _____ DATE: _____

MAKE/MODEL/YEAR: _____

TYPE OF REPAIR: _____

ESTIMATED REPAIR COST: _____ REQUESTED BY: _____
Dist. Mtce. Engineer

COMMENTS: _____

HEADQUARTER'S MAINTENANCE OFFICE ONLY

COMPLEMENT STATUS _____ UTILIZATION
AVERAGE (Past 2 Years) %

EQUIPMENT VALUE \$ _____ AFTER REPAIR COMPLETED

☐ APPROVED

☐ DISAPPROVED

BY: _____
EQUIPMENT SUPERINTENDENT

COMMENTS: _____

Figure 700-9


PREVENTIVE MAINTENANCE INSPECTION					
EQUIPMENT - SPECS					
ITD-685 12-93 W 27-032455-1	Equipment No.	Type Fuel	Eng. Oil	Fan Belt	Hyd. Oil
	Engine Size	Fuel Filter #	Oil Filter #	P.S. Belt	Trans. Oil
	Make/Model	Fuel Capacity	Tire Pres.	Alt. Belt	Diff. Oil
	Preventive Maintenance	Miles	Hours	(check one)	
<p>PM (A) E981 - Change engine oil and filters every 1,500/100 km/hours (3,000/100 miles/hour) for gasoline; 3,000/100 km/hours (6,000/100 miles/hour) for diesel trucks. Items needing attention will be noted on ITD-659 and scheduled for correction. Oil samples of crankcases, hydraulic systems, and gear cases will be taken at specified intervals to determine wear characteristics. When PM (A) is completed, forward white copy to District Shop. District Shop will forward to Data Entry. After Data Entry is completed, white copy may be filed in equipment file. The yellow copy stays in PM book. Chassis Lube done in conjunction with this oil change is included in this activity. <u>Operator will perform this PM (A)</u></p> <p>PM (B) E982 - Chassis lube every 1,500/100 km/hours (3,000/100 miles/hours). Lubrication and inspection of all wear points as specified in owner's manual and the preventive maintenance lube sheet for the type of unit involved. This service includes a safety inspection of wear items, leaks, and abnormalities. Items needing attention will be noted on ITD-659 and scheduled for correction. Forward white copy to shop as in PM (A). <u>Operator will perform this PM (B)</u></p> <p>PM (C) E983 - The "nonscheduled" equipment inspection is performed every 90 days without specified scheduling. Form No. DH-1764 is used as a checklist for PM compliance and equipment condition report. <u>District Traveling Mechanic will perform this PM (C)</u></p> <p>PM (D) E984 - The "scheduled equipment" inspection is performed on a scheduled basis every other year or 9,000/600 km/hours (18,000/600 miles/hours), whichever comes first. Form DH-1741 is used as a checklist for items to be inspected and deficiencies corrected. Process white copy as instructed in PM (A) for shop superintendent to keep in his file. <u>District Main Shop Mechanic will perform this PM (D)</u></p>					

Driver Daily Checklist (Report Deficiencies on ITD-659)			
Leaks, General	Walk around and look	Tires/Wheels	Check cuts and loose lugs
Belts/Hoses	Frayed, Torn, Leaking, Etc.	Brakes	Test before leaving yard
Engine Oil	Carefully check dipstick	Clutch	Check before leaving yard
Engine Warmup	1 to 5 minutes	Horn	Test
Fuel	Fill tank every evening	Steering	Jerks, pulls, wanders
Gages	Check, must function	Windshield Wipers	Motor, arms, and blades
Lights/Signals	Check, must function	Unusual Noises	Report
Radiator	Core clean	Taillights	Lens clean

Figure 700-10

ITD-659 (1-88)

PREVENTIVE MAINTENANCE EQUIPMENT MANAGEMENT



EQUIPMENT NUMBER

METER READING

MILES
HOURS

Vehicle Description

Org. Code Location

EA81 MOTOR OIL
E381 TRANSMISSION OIL

EC81 DIFFERENTIAL OIL
ED81 HYDRAULIC OIL

EA82 CHASSIS LUBE
EA83 90-DAY SERVICE

DATE			LABOR				WORK UNITS COMPLETE
MO.	DAY	YR.	LAST NAME (per form)	SOCIAL SECURITY NUMBER	ACT. NO.	HOURS	

✓ OIL SAMPLE(S) TAKEN

☐ Motor Oil

☐ Transmission Oil

☐ Differential Oil

☐ Hydraulic Oil

*Include a Completed
ITD-945 With Each Sample*

COMMENTS _____

Performed By

Checked By

760.3.3 Types of Service

All listed preventive maintenance activities (EA81, EB81, EC81, ED81, EA82, EA83) and all oil sampling is the responsibility of ITD employees assigned to operate the vehicle and/or equipment.

When changing oils and filters, note items needing attention on Form **ITD 0659**, from which the Shop Superintendent schedules corrections.

All preventive maintenance work shall be completed before scheduling an annual vehicle and/or equipment inspection with the shop.

760.3.3.1 Oil Change - EA81, EB81, EC81, ED81 (PM Type A)

EA81, EB81, EC81, ED81 activities are divided into service and sampling intervals.

This PM (A) service is to be performed by ITD employees assigned to operate the vehicle and/or equipment. Items needing attention will be noted in the comment section on form **ITD 0659**. When PM (A) is completed, forward the first copy (white) of the form to the District shop. The District Shop Superintendent will data enter the information into the Equipment Management System (EMS). The second copy (yellow) remains in the PM book.

Service Intervals

EA81 - Engine oil drain and filter replacement is to be performed for all ITD units equipped with gasoline and diesel engines at the following specified intervals:

- Gasoline Engines: Every 3,000 miles or 100 hours of operation.
 - Small Horsepower Engines: Manufacturer's recommendation found in the operator's/owner's manual not to exceed 50 hours of operation.
- Diesel Engines:
 - Stationary Application: Manufacturer's recommendation found in the operator's/owner's manual or 100 hours of operation, whichever occurs first.
 - Light-Duty Truck (up to 15,000 GVW): Manufacturer's recommendation found in the operator's/owner's manual or 6,000 miles/100 hours of operation, whichever occurs first.
 - Medium and Heavy-Duty Truck: Every 6,000 miles/100 hours of operation.
 - All Other Diesel-Powered Equipment: Every 100 hours of operation.
 - Buyback Equipment (Non-ITD): Manufacturer's recommendation found in the operator's/owner's manual or 250 hours of operation.

EB81 - Automatic transmission oil drain and filter replacement is to be performed for all ITD units equipped with gasoline and diesel engines at the following specified intervals:

- Gasoline Engine: At the unit's first 24,000 miles/500 hours of operation.
- Diesel Engine:
 - Vehicle/Truck: At the manufacturer's recommendation found in the operator's/owner's manual.
 - Earth Moving/Construction Equipment (including hydrostatic and power-shift design, etc.): Manufacturer's recommendation found in the operator's/owner's manual.

EC81, ED81 - All other fluid compartment oil drains are to be performed for all ITD units:

- ◆ Hydrostatic drives, differentials, manual transmissions, hydraulic systems, gear boxes, etc., at the manufacturer's recommended service interval found in the operator's/ owner's manual.
- ◆ When a visual inspection indicates a problem.
- ◆ When oil sample analysis report indicates a failed sample.
- ◆ At the request of the Equipment Superintendent, Equipment Analyst, Shop Superintendent, or Chemical Lab.

Sampling Intervals

**Note: Random oil sampling for all compartments may be requested by the Equipment Superintendent on specified equipment for possible interval extension or oil evaluation purposes.*

Engine oil sampling is to be performed for all ITD units equipped with gasoline and diesel engines at the specified intervals to determine wear characteristics:

- Gasoline Engine: At the first 12,000 and 24,000 miles of operation.
 - Small Horsepower Engines: At the first 25 hours of operation.
- Diesel Engines:
 - Stationary Application: Every 200 hours of operation.
 - Light-Duty Truck (up to 15,000 GVW): Every 6,000 miles/ 100 hours of operation.
 - Medium and Heavy-Duty Truck: Every 6,000 miles/100 hours of operation.
 - All Other Diesel-Powered Equipment: Every 100 hours of operation.

- Buyback Equipment (Non-ITD): Manufacturer's recommendation found in the operator's/owner's manual or 250 hours of operation.

Automatic transmission oil sampling is to be performed for all ITD units at specified intervals to determine wear characteristics:

- Units designated 1 ton or over and equipped with:
 - Mileage Odometer: At the first 12,000 and 24,000 miles of operation.
 - Hour Meter: At the first 250 and 500 hours of operation.
- After the first specified hours of operation, reduce the sampling interval to once a year.

All other fluid compartment oil sampling is to be performed for all ITD units at specified intervals to determine wear characteristics:

- Units equipped with hydrostatic drives, differentials, manual transmissions, hydraulic systems, gear boxes, etc., and equipped with:
 - Mileage Odometer: At the first 12,000 and 24,000 miles of operation.
 - Hour Meter: At the first 250 and 500 hours of operation.
- After the first specified hours of operation, reduce the sampling interval to once a year.
- At the request of the Equipment Superintendent, Equipment Analyst, Shop Superintendent, or Chemical Lab.

Guidelines for submitting oil samples are:

- ITD-owned equipment:
 - Submit oil samples to the Central Chemical Lab in Boise.
 - Samples can be sent via the U.S. Postal Service using the pre-addressed, self-adhesive mailing label included in the sample kit.
 - The oil analysis sample form **ITD-945** included in the sample kit must be completed and a copy returned with the sample.
- Buyback equipment:
 - Oil samples taken on buyback equipment are to be submitted to the vendor.
 - Any required documentation included in the sample kit must be completed and returned with the oil sample.

Refer to Fig 700-11

760.3.3.2 Chassis Lube EA82 (PM Type B)

Inspect and lubricate wear points as specified in the owner's manual and the preventive maintenance lube sheet for the type of unit involved. Inspect and service special equipment and hydraulic systems as necessary including a safety inspection of wear items, leaks and abnormalities.

This PM (B) service is to be performed by ITD employees assigned to operate the vehicle and/or equipment. Items needing attention will be noted in the comment section on form **ITD 0659**.

Forward the first copy (white) of form ITD 0659 to the District shop as outlined in PM (A).

760.3.3.3 90-Day Service EA83 (PM Type C)

The nonscheduled equipment inspection is performed every 90 days without specified scheduling. Form **ITD-1741-A** is used as a checklist for PM compliance and equipment condition report.

This PM (C) service is to be performed by ITD employees assigned to operate the vehicle and/or equipment. Inspect and perform activities listed on form ITD-1741-A. Note all items needing attention.

A completed **ITD-0659** form shall accompany the completed ITD-1741-A form when reporting this activity. Forward the first copy (white) of form ITD 0659 along with the form ITD-1741-A to the District shop as outlined in PM (A).

Refer to Figure 700-12.

760.3.3.4 Annual Inspection EA84 (PM Type D)


The scheduled equipment inspection is performed on a scheduled basis of every twelve months. The maximum amount of time allowed to pass between inspections shall be twenty-four months or 9,000 hours/18,000 miles, whichever occurs first. Form **ITD-1741** is used as a checklist for items to be inspected and deficiencies corrected.

This annual inspection is to be performed by trained shop personnel and the time spent is to be recorded on a shop job order. Inspect special maintenance items and service emission control devices as specified by the manufacturer's recommendations. Items needing attention will be scheduled for correction.

Check for PM (A) EA81 and PM (B) EA82 scheduled service and sampling intervals and perform if required. The completed ITD-1741 form shall be attached to the job order when reporting this activity for the District Shop Superintendent to keep in his file.

Refer to Figure 700-13.

Fig 700-11

ITD-945 8-94 W		PREVENTIVE MAINTENANCE OIL ANALYSIS SAMPLE		
VEHICLE INFORMATION:		DISTRICT NO.: _____		
		EQUIPMENT NO.: _____		
<input type="checkbox"/> DIESEL	MAKE _____	OIL BRAND & WT.: _____		
	MODEL _____	DATE SAMPLED: _____		
<input type="checkbox"/> GASOLINE	YEAR _____	SAMPLED BY: _____		
		SHOP LOCATION: _____		
		MAINTENANCE FOREMAN: _____		

PLEASE CHECK COMPARTMENT SAMPLED			OPERATING DATA
<input type="checkbox"/> MAIN ENGINE	<input type="checkbox"/> RIGHT TANDEM	(GRADERS, etc.)	
<input type="checkbox"/> SEC. ENGINE	<input type="checkbox"/> LEFT TANDEM	<input type="checkbox"/> LEFT FRONT HUB	
<input type="checkbox"/> REAR DIFF.	<input type="checkbox"/> HYDRAULIC	<input type="checkbox"/> RIGHT FRONT HUB	
<input type="checkbox"/> FRONT DIFF.	<input type="checkbox"/> TRANSFER CASE	<input type="checkbox"/> LEFT INNER F.D.	
<input type="checkbox"/> MAIN TRANS.	<input type="checkbox"/> TORQUE CONVERTER	<input type="checkbox"/> LEFT OUTER F.D.	
<input type="checkbox"/> SEC. TRANS. (AUX)	<input type="checkbox"/> FINAL DRIVE	<input type="checkbox"/> RIGHT INNER F.D.	
<input type="checkbox"/> BACK TANDEM	<input type="checkbox"/> GEAR BOX	<input type="checkbox"/> RIGHT OUTER F.D.	
<input type="checkbox"/> FRONT TANDEM	<input type="checkbox"/> AIR COMPRESSOR	<input type="checkbox"/> OTHER _____	

WAS OIL DRAINED? <input type="checkbox"/> YES or <input type="checkbox"/> NO		TOTAL MILES/HOURS _____
		MI/HRS AT LAST OIL CHG. _____
		MI/HRS SINCE LAST CHG. _____
		OIL ADDED _____ QTS.

OIL MUST BE WARM AND WELL MIXED BEFORE SAMPLING

COMMENTS OR REPAIR SINCE LAST SAMPLE _____

White copy: send with sample	DATE RECEIVED _____	LAB. NO. _____
Yellow copy: keep for your records		JOB ORDER NO. _____

760.3.3.5 Equipment Antifreeze Replacement

On or before September 15, the antifreeze solution shall be checked for required freeze protection in all water-cooled vehicles and/or equipment. This annual antifreeze inspection is to be performed by trained shop personnel and the time spent is to be charged to Preventative Maintenance activity EA80 on the employee's time sheet.

Additional test requirements include the use of litmus test strips to test the acid content of the antifreeze solution. If the antifreeze is not acidic, it may be used until the next schedule antifreeze check. If the antifreeze is acidic, then the complete cooling system must be drained, flushed, and refilled with a new antifreeze solution mixture of required strength.

If the antifreeze solution has become diluted and does not pass the freezing requirement (but it does pass the litmus strip test), drain a portion of the radiator antifreeze solution and add enough straight antifreeze concentrate to obtain the required freeze protection.

Attach dated radiator tags or write with a marker to provide a record of antifreeze age and strength.

760.3.3.6 Air Filter Inspection

Proper air filter inspection is essential to the life of an engine. Replacing the air filter too soon instead of when scheduled becomes expensive and can be just as detrimental to the engine as not replacing it enough or not at all. The more times the air intake system is open for inspection, the more chances there are for dirt to enter the engine. Air filter inspection should be conducted according to the manufacturer's recommendation found in the operator's/owner's manual.

- Do not tap or blow into the air filter when checking for dirt. Chances are the air intake system is still open and dirt may enter into the engine.
- Never clean and reuse an air filter. The cost of a new air filter is cheaper than the replacement cost of an engine.
- Before installing a new air filter, always check to make sure the new replacement filter has the same physical dimensions (exact match) as the old filter.
- All diesel engine trucks and off-road earth moving equipment are equipped with an "Air Cleaner Service Indicator."
 - This device allows the operator to monitor and check the condition of the air filter without opening the air intake system.
 - Please review the operator's/owner's manual for the proper use of the Air Cleaner Service Indicator in checking filter condition and testing the operation of the Air Cleaner Service Indicator.

760.3.3.7 Deficiencies

Report all vehicle and/or equipment deficiencies to an immediate supervisor. Document all deficiencies by completing the comment section on form ITD 0659

Major deficiencies are those items that constitute a hazard to the operator or traveling public or that could result in further damage to the equipment if allowed to operate in that condition.

If you discover what you believe is a major deficiency, get clearance from your supervisor before further operation of the vehicle and/or equipment.

Minor deficiencies are those items that are not serious enough to create safety hazards to the extent of grounding the vehicle.

760.3.3.8 Unassigned District 61 Equipment (Traveling Equipment)

An equipment inspection is to be performed on District 61 equipment that is not district assigned and is shared throughout the state. Inspections will be performed when that District 61 equipment enters the district and again when it leaves. Form ITD-2758 is used as a check list for items to be inspected and deficiencies corrected. A copy of this check list is to be sent to the Equipment Superintendent upon completion. Items needing attention will be scheduled for correction by the District Shop Superintendent.

Preventative Maintenance PM (A) EA81 and PM (B) EA82 activities are to be included and performed by all ITD employees assigned to operate the vehicle and/or equipment.

Refer to Figure 700-14.

760.3.4 Preventive Maintenance Reporting

This section outlines preventive maintenance reporting procedures.

760.3.4.1 Equipment Specification Card ITD-685

The information listed on page 1 of the **ITD 0778** booklet (To Be Completed by Shop Supervisor) is data required for field preventive maintenance, i.e., model numbers, capacities, sizes, filters, etc., of equipment components. When new vehicles and/or equipment arrive in your district, complete this information section of the booklet and keep the booklet with the unit at all times. When the booklet needs to be replaced, transfer this information to the new booklet.

Refer to Figure 700-9 in Section 760.3.

Figure 700-12



ITD-1741-A 3-90 27-103601-4	<h2 style="margin: 0;">NON - SCHEDULED EQUIPMENT INSPECTION</h2> <p style="margin: 0;">SEE MAINTENANCE MANUAL 05-110.4</p>	
DATE _____ EQUIPMENT NO. _____		
INSPECTOR _____		
TO ASSURE PROPER INSPECTION FOLLOW SEQUENCE AS INDICATED BY NUMBER		
1. ITD-778 "EQUIPMENT SERVICE RECORD" IS PROPERLY USED YES <input type="checkbox"/> NO <input type="checkbox"/>		
2. PRESENT HOURS OR MILES _____ HOURS OR MILES AT LAST SERVICE _____		
3. BODY APPEARANCE: IF POOR, PLEASE EXPLAIN		
OUTSIDE	GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR <input type="checkbox"/>	
INSIDE	GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR <input type="checkbox"/>	
4. CHECK:		
	OK	NEEDS ATTN.
REMARKS		
A. OIL		
B. ANTI-FREEZE LEVEL		
C. ACCESSORY BELTS		
D. BATTERY APPEARANCE		
E. AIR FILTER		
F. TIRE INFLATION		
5. INSPECTION FOR LEAKS		
A. ENGINE		
B. TRANSMISSION		
C. DIFFERENTIAL		
D. COOLING SYSTEM		
E. CLUTCH ADJUSTMENT		
F. HYDRAULIC SYSTEM		
6. GAUGE INSPECTION		
A. OIL PRESSURE		
B. AMMETER		
C. TEMPERATURE		
D. FUEL		
E. SPEED OR HOUR METER		
7. SAFETY DEVICES		
A. LIGHTS & TURN SIGNALS		
B. EMERGENCY WARNING LIGHTS		
C. BRAKES		
D. HORN		
E. WIPERS & WASHERS		
F. WINDOWS		
G. REAR VIEW MIRRORS		
COMMENTS: _____		

Figure 700-13

ITD-1741 1-91
27-103600-6

SCHEDULED EQUIPMENT INSPECTION

SERVICE - E984 - DISTRICT SHOP



DATE _____ EQUIPMENT NO. _____ MILEAGE / HOURS _____

ENGINE : ☐ GASOLINE ☐ DIESEL JOB ORDER NO. _____ INSPECTOR _____

STEAM CLEAN ☐ ENGINE ☐ UNDERCARRIAGE

CYLINDER BALANCE - CHECK (✓) THOSE NEEDING ATTENTION

1	2	3	4	5	6	7	8

ENGINE TUNE UP

	OK	REPAIR	COMMENTS
DISTRIBUTOR	<input type="checkbox"/>	<input type="checkbox"/>	
SPARK PLUGS	<input type="checkbox"/>	<input type="checkbox"/>	
SPARK PLUG WIRES	<input type="checkbox"/>	<input type="checkbox"/>	
BATTERY	<input type="checkbox"/>	<input type="checkbox"/>	
ALTERNATOR	<input type="checkbox"/>	<input type="checkbox"/>	
STARTER	<input type="checkbox"/>	<input type="checkbox"/>	
CARBURETOR	<input type="checkbox"/>	<input type="checkbox"/>	
INJECTION SYSTEM	<input type="checkbox"/>	<input type="checkbox"/>	
FUEL PUMP	<input type="checkbox"/>	<input type="checkbox"/>	
EMISSION PIPING	<input type="checkbox"/>	<input type="checkbox"/>	
EMISSION FILTERS	<input type="checkbox"/>	<input type="checkbox"/>	
FUEL CAP	<input type="checkbox"/>	<input type="checkbox"/>	
FUEL FILTERS	<input type="checkbox"/>	<input type="checkbox"/>	
AIR CLEANER	<input type="checkbox"/>	<input type="checkbox"/>	
EXHAUST SYSTEM			
TURBO CHARGER	<input type="checkbox"/>	<input type="checkbox"/>	
MANIFOLDS	<input type="checkbox"/>	<input type="checkbox"/>	
EXHAUST PIPE	<input type="checkbox"/>	<input type="checkbox"/>	
CAT. CONVERTER	<input type="checkbox"/>	<input type="checkbox"/>	
MUFFLER	<input type="checkbox"/>	<input type="checkbox"/>	
TAILPIPE	<input type="checkbox"/>	<input type="checkbox"/>	
EXHAUST HANGERS	<input type="checkbox"/>	<input type="checkbox"/>	
POWER TRAIN			
ENGINE	<input type="checkbox"/>	<input type="checkbox"/>	
CLUTCH	<input type="checkbox"/>	<input type="checkbox"/>	
TRANSMISSION	<input type="checkbox"/>	<input type="checkbox"/>	
FRONT AXLE	<input type="checkbox"/>	<input type="checkbox"/>	
DRIVE LINE FRT.	<input type="checkbox"/>	<input type="checkbox"/>	
MAIN DRIVE LINE	<input type="checkbox"/>	<input type="checkbox"/>	
FR. DIFF. TAND.	<input type="checkbox"/>	<input type="checkbox"/>	
DRIVELINE TAND.	<input type="checkbox"/>	<input type="checkbox"/>	
REAR DIFF. TAND.	<input type="checkbox"/>	<input type="checkbox"/>	
AIR COMPRESSOR	<input type="checkbox"/>	<input type="checkbox"/>	
COOLING SYSTEM			
WATER PUMP	<input type="checkbox"/>	<input type="checkbox"/>	
RADIATOR	<input type="checkbox"/>	<input type="checkbox"/>	
HOSES	<input type="checkbox"/>	<input type="checkbox"/>	
HEATER HOSES	<input type="checkbox"/>	<input type="checkbox"/>	
ANTI - FREEZE	<input type="checkbox"/>	<input type="checkbox"/>	
THERMOSTAT	<input type="checkbox"/>	<input type="checkbox"/>	
AIR CONDITIONING	<input type="checkbox"/>	<input type="checkbox"/>	
BLOCK HEATER	<input type="checkbox"/>	<input type="checkbox"/>	

UNDER CARRIAGE

	OK	REPAIR	COMMENTS												
PWR. STEER PUMP	<input type="checkbox"/>	<input type="checkbox"/>													
STEERING GEAR	<input type="checkbox"/>	<input type="checkbox"/>													
SHOCK ABSORBERS	<input type="checkbox"/>	<input type="checkbox"/>													
KING PINS	<input type="checkbox"/>	<input type="checkbox"/>													
BALL JOINTS	<input type="checkbox"/>	<input type="checkbox"/>													
DRAG LINK	<input type="checkbox"/>	<input type="checkbox"/>													
TIE RODS	<input type="checkbox"/>	<input type="checkbox"/>													
IDLER ARM	<input type="checkbox"/>	<input type="checkbox"/>													
BRAKES	<input type="checkbox"/>	<input type="checkbox"/>													
EMERGENCY BRAKE	<input type="checkbox"/>	<input type="checkbox"/>													
BRAKE DRUMS	<input type="checkbox"/>	<input type="checkbox"/>													
BRAKE CANS / CYLS.	<input type="checkbox"/>	<input type="checkbox"/>													
WHEELS & LUG BOLTS	<input type="checkbox"/>	<input type="checkbox"/>													
WHEEL BEARINGS	<input type="checkbox"/>	<input type="checkbox"/>													
WALKING BEAM BUSHINGS	<input type="checkbox"/>	<input type="checkbox"/>													
SPRINGS	<input type="checkbox"/>	<input type="checkbox"/>													
WHEEL ALIGNMENT	<input type="checkbox"/>	<input type="checkbox"/>													
TIRES															
RECORD TIRE	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20%;">FRONT AXLE</td> <td style="width: 20%;">2ND AXLE</td> <td style="width: 20%;">3RD AXLE</td> </tr> <tr> <td>/ 32</td> <td>/ 32</td> <td>/ 32</td> </tr> <tr> <td>TREAD DEPTH</td> <td>/ 32</td> <td>/ 32</td> </tr> <tr> <td>MEASUREMENTS</td> <td>/ 32</td> <td>/ 32</td> </tr> </table>			FRONT AXLE	2ND AXLE	3RD AXLE	/ 32	/ 32	/ 32	TREAD DEPTH	/ 32	/ 32	MEASUREMENTS	/ 32	/ 32
FRONT AXLE	2ND AXLE	3RD AXLE													
/ 32	/ 32	/ 32													
TREAD DEPTH	/ 32	/ 32													
MEASUREMENTS	/ 32	/ 32													
HYDRAULIC SYSTEM															
PUMP	<input type="checkbox"/>	<input type="checkbox"/>													
P.T.O. DRIVE	<input type="checkbox"/>	<input type="checkbox"/>													
HOSES	<input type="checkbox"/>	<input type="checkbox"/>													
VALVES	<input type="checkbox"/>	<input type="checkbox"/>													
CONTROLS	<input type="checkbox"/>	<input type="checkbox"/>													
CYLINDERS	<input type="checkbox"/>	<input type="checkbox"/>													
FILTER	<input type="checkbox"/>	<input type="checkbox"/>													
SAFETY EQUIPMENT															
WINDSHIELD	<input type="checkbox"/>	<input type="checkbox"/>													
DOOR GLASS	<input type="checkbox"/>	<input type="checkbox"/>													
REAR WINDOW	<input type="checkbox"/>	<input type="checkbox"/>													
REARVIEW MIRROR	<input type="checkbox"/>	<input type="checkbox"/>													
WINDSHIELD WIPERS	<input type="checkbox"/>	<input type="checkbox"/>													
HEADLIGHTS	<input type="checkbox"/>	<input type="checkbox"/>													
TAILLIGHTS	<input type="checkbox"/>	<input type="checkbox"/>													
STROBE LIGHT	<input type="checkbox"/>	<input type="checkbox"/>													
HORN	<input type="checkbox"/>	<input type="checkbox"/>													
GAUGES	<input type="checkbox"/>	<input type="checkbox"/>													
SPEEDOMETER	<input type="checkbox"/>	<input type="checkbox"/>													
REFLECTOR KIT	<input type="checkbox"/>	<input type="checkbox"/>													
SEAT BELTS / SEATS	<input type="checkbox"/>	<input type="checkbox"/>													
BACK ALARM	<input type="checkbox"/>	<input type="checkbox"/>													
FIRST AID KIT	<input type="checkbox"/>	<input type="checkbox"/>													
FIRE EXTINGUISHER	<input type="checkbox"/>	<input type="checkbox"/>													

COMMENTS:

COMMENTS CONTINUED ON REVERSE SIDE ☐

760.3.4.2 Fluid Use Record (ITD 0778 Booklet)

All ITD personnel are to perform daily checks before driving or operating any vehicle or piece of equipment. When performing daily or scheduled inspections, this record is used to record **all** fluids that were added.

In addition to recording all oils and coolant that were added to the unit, *the driver or operator is also required to enter the amount of fuel used at each refueling interval*. By recording fuel usage, the driver or operator can then verify:

- If the recorded meter/odometer reading is in correct sequence with previously entered meter/odometer readings.
- If the unit is equipped with multiple meters and if the correct meter/odometer is being used to record fuel purchases.
- If the meter/odometer has developed a problem or has quit working altogether.

760.3.4.3 Equipment Preventive Maintenance and Service Inspection Record (ITD 0778 Booklet)

Record pre-trip inspection information or inspection of specific items that the manufacture has scheduled. Record the information for those items that have been inspected.

760.3.4.4 ITD 0659, Preventive Maintenance Equipment Management

A pad of this form is required to be kept in every vehicle and/or piece of equipment unless otherwise specified by the District Shop Superintendent. Complete the form for any or all of the defined preventive maintenance activities that are performed. A copy of this form notifies a computerized scheduling program that preventive maintenance service has been completed and automatically updates the service record for each vehicle or piece of equipment.

If the vehicle or piece of equipment is outsourced for any preventive maintenance work, it is the responsibility of the individual overseeing and inspecting the work to complete and submit form ITD 0659.

Proper completion of this form is essential in determining the districts' equipment budget allocation.

Refer to Figure 700-10 in Section 760.3.

Form Distribution: First copy (white) is forwarded to District Shop for data entry into the Preventative Maintenance (PM) system; second copy (yellow) is retained in the PM book. The PM book is then kept in the vehicle and/or equipment for future reference.

760.3.4.5 ITD-1741-A, Non-Scheduled Equipment Inspection

Complete this form for Preventive Maintenance service PM (C) EA83, 90-Day Service. This form provides an orderly means of inspecting and servicing the vehicle components and a means of reporting the service and vehicle condition to supervisory and/or District shop personnel.

Refer to Figure 700-12 in Section 760.3.3.3.

Form Distribution: Single copy sent to the District Shop Superintendent

760.3.4.6 ITD-1741, Scheduled Equipment Inspection

Complete this form for preventive maintenance service PM (D) EA84, Annual Inspection. This scheduled inspection is to be conducted by trained shop personnel. The form provides an orderly means of inspecting and servicing the vehicle components. Any additional work discovered from the inspection can then be addressed by the District Shop.

Refer to Figure 700-13 in Section 760.3.3.4.

760.3.4.7 ITD 945, Preventive Maintenance Oil Analysis Sample


This form is used to record oil sampling information that is pertinent to the type of oil sampled and what vehicle or piece of equipment it was taken from.

Form Distribution: First copy accompanies sample to the Materials Chemical Lab; second copy retained by the individual taking the sample.

Refer to Figure 700-11 in Section 760.3.3.1.

Figure 700-14

ITD-2758
10-92



**CONDITION REPORT FOR DISTRICT 61 EQUIPMENT
CRAWLER TRACTORS, ASPHALT MILLING MACHINE, AND TRENCHER**

DISTRICT _____

FOREMAN ASSIGNED _____

SHOP SUPT. _____

EQUIPMENT NUMBER _____

DATE RECEIVED _____

MILES/HOUR METER _____

DATE LEAVING _____

MILES/HOUR METER _____

This report must be filled out and signed by the Shop Superintendent when transferring this equipment to another District.

DISTRIBUTION :

ORIGINAL - Equipment Superintendent

YELLOW - Receiving District

PINK - Sending District

<u>DESCRIPTION</u>	<u>OK</u>	<u>COMMENT</u>
CLEAN EQUIPMENT	_____	_____
COMPLETE LUBRICATION	_____	_____
CHANGE OIL AND FILTER	_____	_____
CHECK ALL FLUID LEVELS	_____	_____
DRAIN DIESEL FUEL FILTER	_____	_____
CHECK HYDRAULIC CYL. FOR LEAKS	_____	_____
REPAIR ANY OTHER LEAKS	_____	_____
CHECK BRAKE OPERATION	_____	_____
INSTRUMENTS AND LIGHTS WORKING	_____	_____
STEERING L AND R OPERATIONAL	_____	_____
TRACK PAD BOLTS TIGHT	_____	_____
CHECK TRACKS AND UNDERCARRIAGE	_____	_____
CUTTING BITS/TEETH NEED REPLACING	_____	_____
PM BOOK WITH MACHINE	YES/NO	_____
OVERALL CONDITION WHEN RECEIVED	_____	
OVERALL CONDITION ON DEPARTURE	_____	
GENERAL COMMENTS: _____		

760.3.5 Preventive Maintenance Service Scheduling

This section outlines the scheduling method and procedures.

760.3.5.1 Scheduling Method

Data from the various reporting forms are entered into computer systems to update the service records on each vehicle or piece of equipment. A computer program schedules some service activities at regular time intervals throughout the year. Partial service (e.g., 90-day service) is scheduled to coincide with annual service to avoid duplicate effort. Other equipment services are based on and scheduled according to the mileage or running time accumulated by the vehicle or piece of equipment.

Reports are sent to appropriate personnel showing what service has been done to each piece of equipment and what should be done in the next time interval.

Review the reports and take necessary coordinated action to ensure that preventive maintenance services are accomplished.

See [Figure 700-15](#).

760.3.5.2 PM Scheduling Procedure

All operators will perform the following procedures when scheduling preventative maintenance work:

- Inspect the equipment before and after operation and ensure the equipment is in a safe, normal operating condition.
- Check the current hour meter/speedometer and date against the **ITD 0659** located in pad form in the vehicle for the hour meter/speedometer reading and date when the last service was performed. Recommended service intervals for determining if servicing is needed begin on page 4 of this booklet.
- Upon completion of scheduled preventative maintenance activities, complete an ITD 0659 preventative maintenance form and note all known or discovered deficiencies in the comment section located at the bottom of the form.
 - Please refer to section 760.3.3.7 of this manual for definition of deficiencies and how to report them.
 - Once completed, the first copy (white) of the ITD 0659 is removed from the book and is submitted to an immediate supervisor for review. The supervisor will then forward to the District Shop Superintendent for data entry into the Preventative Maintenance system.
 - The supervisor will then contact the District shop to make arrangements for all required repairs.

- If a commercial company is used to perform preventative maintenance activities, it is the responsibility of the operator to:
 - Recorded all services performed on the ITD 0659 form.
 - Note all deficiencies in the comment section of the ITD 0659 form.
 - Attached the sales receipt (or a copy) to the first copy (white) of the ITD 0659 form.
 - Submit the ITD 0659 form and sales receipt to an immediate supervisor or District Shop Superintendent for data entry into the Preventative Maintenance system.

Shop Superintendent or Field Mechanic perform the following procedures:

- Ensure that the proper forms are available in vehicles/equipment and instruct individuals in the proper use of the forms and reporting preventive maintenance services.
- Review completed preventive maintenance forms and equipment operator reports to ensure that deficiencies recorded thereon are corrected.
- Review computer reports on scheduled preventative maintenance activities. In the case of vehicles/equipment reported as overdue for scheduled preventative maintenance, contact supervisory personnel assigned to the equipment and verify that a required service is performed or schedule an appointment in accord with the last service date or mileage/hours shown on the report.
- Maintain a maintenance history file on each piece of equipment for future reference regarding repairs or servicing.

Supervisory personnel assigned the equipment perform the following procedures:

- Assure that assigned equipment is serviced in compliance with the prescribed service intervals.
- When PM services are performed by ITD personnel or commercial stations, see that the proper forms are completed and forwarded to District Shop Superintendent for data entry of the information into the Preventative Maintenance system.
- Contact the District Shop Superintendent when a scheduled inspection or repair is necessary. Schedule the work in advance, if possible.

760.3.6 Preventive Maintenance Responsibilities

This section identifies headquarters and district responsibilities for preventive maintenance.

760.3.6.1 Equipment Superintendent - Headquarters

The Equipment Superintendent is responsible for providing an efficient, effective and track-able equipment preventive maintenance program for statewide use, and is also responsible for review of the district implementation of the program.

760.3.6.2 Equipment Manager - District

The District Shop Superintendent is responsible for implementing the preventive maintenance program as outlined in Sections 5-763.3 through 5-763.5.2 of the Maintenance Manual.

760.3.7 Permanent Equipment Maintenance Record Form ITD 0778

Equipment is purchased to assist ITD employees to do their jobs more effectively and efficiently over a long period of time. The operators of the equipment are responsible for its safe operation, preventative maintenance and records at prescribed intervals as recommended by the Equipment Superintendent and the Operator's manual.

Form **ITD 0778**, Permanent Equipment Maintenance Record, is to be located in all motorized equipment units and is to be utilized by the operator(s) for a permanent record of any preventative maintenance performed, fluids added and/or fuel used.

Figure 700-15

Equipment Operator	Personnel Responsible for Preventive Maintenance (Shop Supervisor or Field Mechanic)	Supervisory Personnel Assigned the Equipment
<p>1. Inspect the equipment before, during and after operation and ensure the equipment is in safe, normal operating condition.</p> <p>2. Complete the equipment operators report, Form ITP-659, when operator Preventive Maintenance services are completed</p> <p>a) If a minor deficiency is noted that does not require grounding the vehicle until it is corrected, the first copy of ITP-659 is removed from the book and routed to supervisory personnel for scheduling or repair.</p> <p>b) If a major deficiency is discovered that should be corrected prior to further operation, the first copy of ITP-659 will be routed to supervisory personnel for scheduling of repairs.</p> <p>3. Check the current hour meter/speedometer and date against the ITP-659 located in pad form in the vehicle for the speedometer hour meter reading and date when the last service was performed. Recommended service intervals will be located on the cover for determination if a service is due.</p> <p>4. If a commercial service is performed, make sure that the service is recorded on the PM service form and a copy sent to supervisory personnel for an update to the Preventive Maintenance Scheduling System. Important: All services performed must be recorded on the ITP-659 Form and a copy sent to the supervisory personnel for an update to the Preventive Maintenance Scheduling System.</p>	<p>1. Ensure that the proper forms are available in the vehicles and appropriate facilities for reporting Preventive Maintenance services.</p> <p>2. Review Preventive Maintenance services lube forms and equipment operators' report and ensure that deficiencies recorded thereon are corrected.</p> <p>3. Review computer reports of services accomplished and services scheduled. In the case of delinquent vehicles, contact supervisory personnel assigned the equipment and verify that a service is performed or schedule an appointment in accord with the last service date or mileage/hours shown on the report.</p> <p>4. Maintain a maintenance history file on each piece of equipment for reference in future repairs or servicing.</p>	<p>1. Assure that assigned equipment is serviced in compliance with the prescribed service intervals.</p> <p>2. If services are accomplished by operating personnel or commercial stations, see that the proper forms are completed and forwarded to personnel assigned the responsibility for preventive maintenance (District Shop Superintendent or Field Mechanic).</p> <p>3. Contact the appropriate shop personnel when a service or repair is necessary and schedule the work in advance, if possible.</p>

764.0 EQUIPMENT TIRE MAINTENANCE

A regular program of inspecting tires is essential for providing the longest tire life for the lowest possible cost and in the prevention of rapid air loss resulting in subsequent tire failure.

All vehicle and/or equipment tires: Tire inspection is to be performed by ITD employees assigned to operate the vehicle and/or equipment. **As a minimum**, tires should be inspected at the time of the regular preventive maintenance checks. More frequent checks are required during cold weather periods.

The correct procedure in checking tires is to always check tire inflation pressures when tires are cold. Adjust tire pressures in compliance with the manufacturer's printed tire pressure information located on the sidewall of tire. Never bleed air from hot tires to relieve normal pressure build-up or to adjust tire pressure. **Do not** allow tires to become under inflated. Always maintain proper tire pressure by checking tire pressure at frequent intervals.

Operators are required to maintain at least 4/32" of tread groove depth on the front tires and 2/32" remaining tread depth on the other wheel positions.

Truck tires: The single tire cold inflation pressure should be 105 psi for 11R22.5 tires and 90 psi for dual tires. For the 315/80R22.5 tires, the cold inflation pressure should be 130 psi during winter operations and 115 psi during summer operations.

Make sure mated dual tires are at equal pressure levels. Use sealing-type valve caps. It is necessary to closely match tire revolutions per mile with tandem drive axle units coupled directly together, as when an inter axle differential does not exist or is locked out. The difference in circumference of the tires on a dual assembly should never exceed 1-1/2 inches.

When mounting duals on a truck, there will generally be some difference of the two tires (within the limits described above). Mount the small tire on the inside. The outside tire wears faster than the inside tire. When mounting the duals on a vehicle, locate the two valves diametrically opposite.

Caution: It is very important not to mix radials and bias ply tires on the same axle due to different load/deflection characteristics of these two types of tires.

764.1 Retreaded Tires on Highway Vehicles

Since it is becoming more and more difficult to dispose of used tires, the need to recycle tires is greater now than in previous years. Therefore, all on-highway tires with a 16 inch wheel diameter or larger will be submitted for retreading/recapping. Used tires with a wheel diameter of less than 16 inches and those with a wheel diameter of 16 inches and larger that are not suitable for retreading/recapping will be stored and sold at public auction.

Retreaded/recapped tires are to be utilized on drive axle and trailer axles only. Retreaded/recapped tires are not to be utilized on steering axles.

764.2 Studded Snow Tires

It is the policy of Management and the Maintenance Section that the only vehicles allowed to operate with studded tires are Incident Management service patrol trucks and rotary snowplows. All other types of equipment are not to be equipped with studded tires.

765.0 EQUIPMENT MODIFICATIONS

For any equipment modifications or design changes deemed necessary, a letter of request must be submitted to the Equipment Superintendent describing in detail the intended modifications, the equipment number, the description, and the estimated cost. No modifications shall be accomplished without the approval of the Equipment Superintendent.

Modifications, whether electrical, mechanical or a hydraulic function directly affecting the performance, operation or safety of any vehicle or unit of road equipment shall be conducted by Shop Personnel under the direction of the Shop Superintendent only. Operators/users are not to be performing equipment modifications.

766.0 BROKEN METERS

It is the responsibility of the operator to ensure that hour meters and odometers are working properly. All deficient hour meters and odometers are to be reported to the Shop Superintendent as soon as the deficiency is discovered.

Upon receiving information that a unit has a malfunctioning hour meter or odometer, the District Shop is to repair the meter within fifteen (15) working days. The Shop Superintendent is to complete form ITD-2715 Odometer Replacement and submit it to the Maintenance Section.

Refer to Figure 700-16.

770.0 OPERATION AND UTILIZATION

770.1 Equipment Design Limits


It is illegal to operate Department vehicles on public highways if weight or size exceeds the established legal limitations unless a special permit allows for greater weight. Legal allowable weight and size limits are set forth in Idaho motor vehicle laws, Title 49, Chapter 10, of the Idaho Code. Department vehicles are designed and procured to meet these requirements. Districts are responsible for controlling these limits on their assigned vehicles with the operator being responsible for overweight citations.

When Department vehicles are loaded in such a manner that the legal allowable weight and size limits as set forth in the Idaho motor vehicle laws , Title 49, Chapter 10 of the Idaho Code are exceeded, the District Equipment Manager is to contact the Special Permit Section and obtain a permit. Department vehicles are not exempt from laws governing size and weight and can be issued citations if the unit is in noncompliance.

770.2 Utilization Reporting Procedures

Proper reporting of equipment utilization is the responsibility of all employees who operate Department owned vehicles and equipment. Improper reporting misrepresents the actual costs associated with maintenance and construction projects and distorts the true cost of operating the equipment fleet. All equipment utilization shall be reported on a daily basis in order to track the days of use as well as the hours or miles.

Figure 700-16

ITD-2715 9-91 27 22136 4		METER REPLACEMENT EQUIPMENT MANAGEMENT																																																			
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For vehicles that are to be reported in miles of usage, utilize the vehicle's odometer to determine the total amount of utilization to report. A periodic check of Equipment Management System should verify that the odometer reading coincides with the number of miles reported as utilization.

The proper method of reporting vehicles and equipment by hour is to report the number of hours that the unit was at the project site and unavailable for another project. Reporting of hourly equipment is not to be based on the hour meter. If a piece of equipment is at a particular job site for 8 hours but only receives 2 hours of actual use, then 8 hours is to be charged for that equipment.

When reporting utilization for loaders stationed at stockpiles, the total hours of utilization reported shall be equal to the storm duration or the employee shift length.

When reporting equipment utilization, take the necessary precautions that a single unit of equipment is not charged by more than one individual.

770.2.1 Documentation

Equipment utilization is reported to the various computerized management systems through the use of the ITD-657 Employee Timesheet and Activity Report form and the ITD-9 Unassigned Motor Pool Equipment Rental Charges form.

770.2.1.1 ITD-657 Employee Timesheet and Activity Report

Vehicles and equipment that are assigned to an individual, section, or maintenance area are to have usage reported on the ITD-657. Utilization is to be reported for each unit of equipment utilized for each individual project or road section.

770.2.1.2 ITD-9 Unassigned Motor Pool Equipment Rental Charges

Headquarters and each district maintain a motor pool of automobiles and other general use equipment for Department business. Reporting of usage of these vehicles is accomplished through the use of the ITD-9 form.

All out-of-town trips are to be recorded on the form by the person utilizing the vehicle or equipment. Miles/hours of use on the vehicle are chargeable to a specific project, training class or to the organization of the operator of the vehicle or equipment.

Short trips to a local business establishment or meetings for Department business are charged to motor pool operations at the end of the reporting period as a single line entry on the ITD-9.

Refer to Figure 700-17.

770.3 Personal Auto Use

Refer to Director's Memorandum No. 11.

770.4 Vehicle Speed Limits

Employees operating state owned vehicles are to obey all traffic laws including the posted speed limit. Traffic laws are also be observed when using personal vehicles on department business.

Although Idaho law restricts trucks with 5 or more axles to a maximum speed of 65 MPH, the general public believes that all trucks are restricted to this speed. In order to promote a positive perception by the public, minimize fuel consumption and tire wear, and increase safety, all ITD trucks will be restricted to a maximum speed of 65 MPH. Trucks with computer controls will have the manual full throttle control set at a maximum of 68 MPH while the maximum cruise control setting will be set at 65 MPH.

770.5 Utilization Review

At the conclusion of each calendar year, the Equipment Superintendent will provide each district with a report detailing the amount of utilization for each unit of equipment. The District Engineer or designee shall review the report to ensure that all equipment is being utilized to stated department standards. See Figure 700-5. For those units of equipment that were utilized below department standards, written justification shall be provided to the Equipment Superintendent for retaining the unit within ITD's equipment fleet. Justification shall include a description of the vehicle's intended use and estimated annual mileage.

Figure 700-17

ITD-9 8-99 W
27-0064009

Beginning Date DD MON YY

Ending Date DD MON YY

Org. Rptg.

UNASSIGNED MOTOR POOL EQUIPMENT RENTAL CHARGES

Operator: Use one line for each trip.
Complete all appropriate columns on each line.


Assigned EQ Org.

Beginning Mileage

Ending Mileage

Difference

EQ No.



	Print Last Name & First Initial/ITD Driver Permit #	Check-Out Date DDMMYY	Check-In Date DDMMYY	Project # (Work Auth.) (7)	Rule Cd. (1)	Task # (FCT, ACT) (6)	Miles or Hours	Beg./End Odom. Reading (7)	Ref Code (2)	Reference # (7)	Beg. (Spot)/End Milepost
1											
2											
3											
4											
5											
6											
7											
8											
TOTAL											

Prepared By:

Date

PAGE OF

DOCUMENT NO.

EQUIP. CLASS

780.0 EQUIPMENT DISPOSAL**780.1 Surplus Equipment**

Road equipment that is determined surplus to the Department should be submitted (use Form ITD-230A, Surplus Property Disposal Request) to the Equipment Superintendent for approval by May 30th each calendar year. Equipment identified for disposal shall meet the replacement criteria described in Section 740.1.1.

Once approved by the Equipment Superintendent, the ITD-230A will be forwarded to the Supply Services Section. The district submitting the request form is responsible for completing the form with one exception (current estimated value), the last column on the extreme right.* The estimated value is computed by the Equipment Superintendent using information entered in the condition code column, past sale history of like equipment, and used equipment value guidelines.

*Description column needs to briefly describe equipment as follows:

4-door sedan, 13,000 kg (1/2-ton) pickup, dump truck, flatbed truck, etc.

The condition codes with brief condition description are as follows:

E – Excellent

G – Good (normal operation with no apparent repairs needed)

F – Fair (operating condition but repairs may be required)

R – Repairs required for normal operation

U – Unusable scrap (sell as scrap or scrap for parts)

Refer to Figure 700-18.

780.2 Equipment Cannibalization

When determining equipment that would have more value to the Department by cannibalization, it must be submitted on form ITD-230A to the Procurement and Material Management Section. Approval must be obtained from the State Board of Examiners before dismantling. After receiving approval, the equipment and Vehicle Identification numbers must be removed and the unit is ready for cannibalization. After removing the usable parts, the remainder of the unit can be sold at the next upcoming sale as scrap iron. For more information, refer to the Procurement and Material Manual, Section 29-604.2.

For more information, refer to the Procurement and Material Manual, Section 29-604.2.

Figure 700-18

[illegible]

790.0 EQUIPMENT COST ACCOUNTING**790.1 Rental Rate Procedure**

Equipment rental rates are used in the Department for cost allocation of equipment to various construction and maintenance projects. Each hour/mile of use is multiplied by the assigned rate and then charged to the corresponding project or road section.

The equipment rental rates are reviewed on an annual basis to coincide with the Federal Fiscal Year by the Financial Services Section of the Department. Rental rates are calculated for each Class of equipment and include all costs associated with the equipment. Before new rates are implemented, they are each reviewed by the Federal Highway Administration (FHWA) to ensure that all costs included are eligible for participation by the FHWA.

790.1.1 Attached Equipment

Attached equipment is equipment that cannot function in a direct manner without the assistance of another piece of equipment. This includes sanders and snow plows and all other equipment with a Class designation of Z1. Employees are not required to report utilization of attached equipment. Therefore, a rental rate for attached equipment cannot be calculated. All costs associated with attached equipment is distributed to the various primary power units of the attached equipment.

790.1.2 Primary Power Unit

The primary power units are equipment with a class designation of AA through ZZ. Rental rates for these classes of equipment include all direct costs of the equipment such as job orders, parts, fuel, and preventive maintenance. Indirect costs and annual depreciation are also included. As stated above, attached equipment costs are allocated to the various classes that are primary power units for the attached equipment such as dump trucks, mower tractors, and tractor trucks.

When all costs are summed to determine the total expenses for the class of equipment, then the total is divided by the previous years utilization for the class to determine the new rental rate.

790.2 Renting Supplemental Equipment

If additional equipment is needed for emergencies or other work, the District Engineer may rent such equipment within the limitations of his budget. Rental charges shall not exceed the maximum shown in the "Equipment Guide Book Company, Rental Rate Blue Book" without approval of the Maintenance Engineer. Refer to the Standard Specifications for Highway Construction handbook for application of the "Rental Rate Blue Book" rental rates.

790.2.1 Estimated Equipment Rental Cost Less Than \$25,000/Project (Refer Administrative Policy A-06-42)

Oral bids shall only be used for equipment rental that is estimated to be less than \$25,000 per project. Oral bids shall be documented through the use of Form ITD-552, Request for Quotation. The original of this form shall go to Financial Control, the first copy shall go to the Maintenance Engineer, and the second copy shall be kept on file by the district or section soliciting the bid.

An Idaho Transportation Department Rental Agreement (ITD-1232) form is required when renting supplemental equipment. An ITD-assigned rental equipment number must be obtained from the Equipment Superintendent (or his representative) when renting any equipment that falls under the equipment categories listed in Figure 700-5 in Section 744.0. Equipment operation costs (fuel, oil, repairs, etc., from ITD sources) will be charged to the assigned rental equipment number on the standard ITD forms. Rental equipment usage should be shown under the equipment column on the Employee Time Sheet by the person responsible for the rented equipment. Refer to Figure 700-19.

790.2.2 Estimated Equipment Rental Cost More Than \$25,000/Project (Refer Administrative Policy A-06-42)

Any required equipment rental that is estimated to be in excess of \$25,000 per project shall be advertised through Contract Administration or the Procurement and Material Management section in accordance with standard contract bid procedures. Formal competitive bidding procedures may be waived in favor of oral bidding procedures in the event of emergency conditions upon approval of the State Highway Administrator.

795.0 EQUIPMENT ATTACHMENTS**795.1 Vehicle Warning Lights**

All department maintenance vehicles working within the right-of-way shall be equipped with at least one amber strobe or dual rotating halogen light. This light must be visible from a distance of not less than 1,000 feet in normal sunlight and not less than 2,500 feet under normal atmospheric conditions at night.

In addition to the amber light(s), 2 and 3-axle dump trucks are to be equipped with conspicuity stripes. These stripes shall be placed along the lower side rub rail of the dump body and shall outline the tailgate of the unit.

Tail lamps, stop lamps, and clearance lamps on all vehicles, including snow removal equipment, must meet standards specified in applicable sections of the Idaho Code.

Any modifications to this policy or special operating conditions that require other lighting must be approved by the Equipment Superintendent. Refer to Fig 700-20.

795.1.1 ITD Sander Truck Warning Light Mounting

Snowplow vehicles equipped with truck-mounted sander bodies will have additional alternating amber flashing lights mounted on the rear of the sander body. These flashing lights will be operated from a separate switch.

Trucks equipped with sander bodies may have a lamp that will illuminate the spinner assembly and the rear of the sander. The direct beam of the light from this lamp must not be visible to following vehicles.

Sander body equipped trucks will also be equipped with conspicuity stripes along the upper side rail and across the back of the sander body.

Refer to Figure 700-21.


795.1.2 Port of Entry Vehicles

Port of entry vehicles shall be equipped with light bars utilizing rotating halogen lights and red lenses. These light bars must also have an amber rotating light or a strobe light to warn motorists when the vehicle is working within the right-of-way. This amber light shall be visible from a distance of not less than 1,000 feet in normal sunlight and not less than 2,500 feet under normal atmospheric conditions at night.

795.1.3 Warning Lights for Vehicles Equipped With Attenuators

Vehicles equipped with an energy absorption attenuator will be mounted with amber lights visible from both directions of travel of the vehicle and with a flashing arrow board. The arrow board will have multiflash capability (i.e., flash left, flash right, and non-directional flash) and be appropriately sized for the vehicle and job requirements.

Figure 700-19

ITD-1232 12-87 27-075800-6	IDAHO TRANSPORTATION DEPARTMENT RENTAL AGREEMENT	
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THIS AGREEMENT, Made and entered into, in quadruplicate, this _____ day of _____, 19____, between the Idaho Transportation Department, party of the the first part, hereinafter referred to as the "State," and _____, a (corporation, partnership or individual), party of the second part, hereinafter referred to as "Renter," whose business and post office address is:

WITNESSETH: Whereas, the State requires the use of certain equipment and machinery on a rental basis for emergency and piece work; and

Whereas, the Renter of the following described equipment owns and will furnish to the State on a rental basis said machinery and equipment, the parties hereto agree as follows:

(1) That the Renter agrees to rent to the State and the State agrees to pay the Renter, for the use of the following items of equipment or machinery, with or without operators, for the periods and at the rate per unit, subject to added stipulations in (7), as follows:

Equipment Description Make and Type	Capacity and/or Mfrs. Rating	Serial No.	Rental Rate With or Without Operator	ITD Assigned Rental Equip. No.
1. _____				T _ _ _ _
2. _____				T _ _ _ _
3. _____				T _ _ _ _
4. _____				T _ _ _ _
5. _____				T _ _ _ _
6. _____				T _ _ _ _

(2) Renter agrees to defend and indemnify the State from liability for claims resulting from defective equipment or renter operator negligence under this agreement and will carry public liability and damage insurance on all equipment or machinery in an amount not less than \$500,000 per occurrence;

(3) The State is/is not to furnish any fuel or repairs for the operation or maintenance in connection with the operation of rental equipment mentioned in this contract;

(4) This contract shall become effective and the work to be performed under it to start not later than the _____ day of _____, 19____, and to be completed not later than the _____ day of _____, 19____.

(5) The District Engineer or Section head, where the work is located, shall be in charge of and supervise the work and direct the operation of the rental equipment at all times. He shall make and keep a daily written report of the number of hours that each unit of equipment was in operation and chargeable to the job under this contract and shall furnish the Renter a copy of such report each day that this contract is in effect until the job is completed, signed by him or his agent designated to make such report, and such report shall be made a part of the permanent work record of the job under this contract. Time for which rent is paid on any particular piece of equipment shall be that during operation on the job only and shall not include time taken out for oiling and repairing.

(6) Acceptance of this contract binds the Renter to the terms and conditions of Section 601, Title VI, Civil Rights Act of 1964: In that, "No person in the United States shall, on the grounds of race, color, national origin, sex, or age, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving Federal financial assistance." In addition, "No otherwise qualified handicapped individual in the United States shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

(7) STIPULATIONS: _____

Any machinery or equipment or operators employed under this contract shall be used, employed on and charged to Project _____, in _____ County.

IN WITNESS WHEREOF, The parties hereto have set their hands and seal this _____ day of _____, 19____.

ATTEST: _____ IDAHO TRANSPORTATION DEPARTMENT

By _____

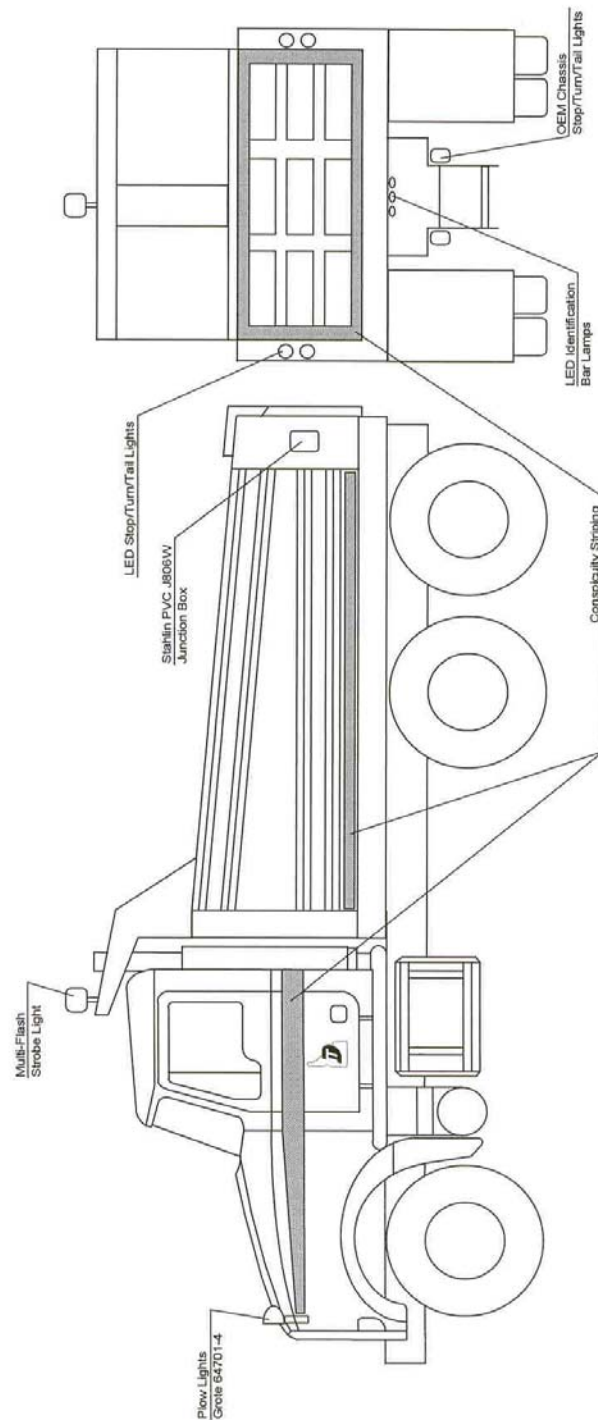
In the Presence of: _____ CORPORATION, PARTNERSHIP OR INDIVIDUAL

By _____

Distribution of signed contract:
 White Original - FC Pink - Issuing Office
 Yellow-ITD Equip. Supt. Gold - To Renter

Managing Agent
Financial Control Agreement Number _____

Figure 700-20
ITD DUMP TRUCK LIGHT MOUNTING



795.1.4 Warning Lights and Signing for Deicer Application Trucks

Vehicles equipped with liquid de-icing application tanks will have additional alternating amber flashing lights mounted on the rear of the body. These flashing lights will be operated from a separate switch.

In addition to the amber light(s), liquid de-icing application trucks are to be equipped with 48" x 18" "Anti-Icing" signs mounted to the sides of the tank as well as a 48" x 36" "Anti-Icing Caution Liquid Spray" sign, Catalog No. 546619309, mounted to the rear. A flashing arrow board sign of the equivalent size may be substituted for the rear sign.

In the event the de-icing application tank is utilized to haul water during other times of the year, the "Anti-Icing" signs are to be removed.

795.2 Forward Facing Lighting On Snow Removal Equipment

All snow plows trucks shall be equipped with two (2) forward facing hi/low beam halogen headlights mounted a minimum of 66" but no more than 78" above ground. Trucks may be equipped with auxiliary fog or spot type lamps.

Fog lamps shall be installed as per the following:

1. Lamp shall activate with the OEM dimmer switch on low beam and shall deactivate on high beam.
2. Lamps shall be mounted on the front of the truck below the snowplow headlights and aimed so that when the vehicle is loaded, none of the high-intensity portion of the light shall be directed to the left of the prolongation of the extreme left side of the vehicle nor more than twenty-five (25) feet ahead of the vehicle.

Spot type lamps shall be installed as per the following:

1. Lamp shall activate with the OEM dimmer switch on high beam and shall deactivate on low beam.
2. Shall be equipped with not more than two (2) spot lamps. Each lighted spot lamp shall be aimed and used upon approaching another vehicle that no part of the high-intensity portion of the beam will be directed to the left of the prolongation of the extreme left side of the vehicle nor more than one hundred (100) feet ahead of the vehicle.
3. Shall be used only during inclement weather while plowing.

796.0 REFLECTORS AND FLAGS ON SNOW PLOWS

The following guidelines are established to improve the safety of the traveling public and the visibility of our snow plows.

1. All snow plows that exceed the width of the truck or power unit they are attached to will be equipped with both bi-directional amber reflectors and 18" x 18" red or fluorescent orange flags on each end of the snow plow.
2. The reflectors/flags will be mounted on the top portion in such a manner to designate the extended edges of the snow plow and be visible to both on-coming traffic and traffic attempting to pass the vehicle.
3. All snow plows will be painted DuPont No.7893 Yellow for visibility.

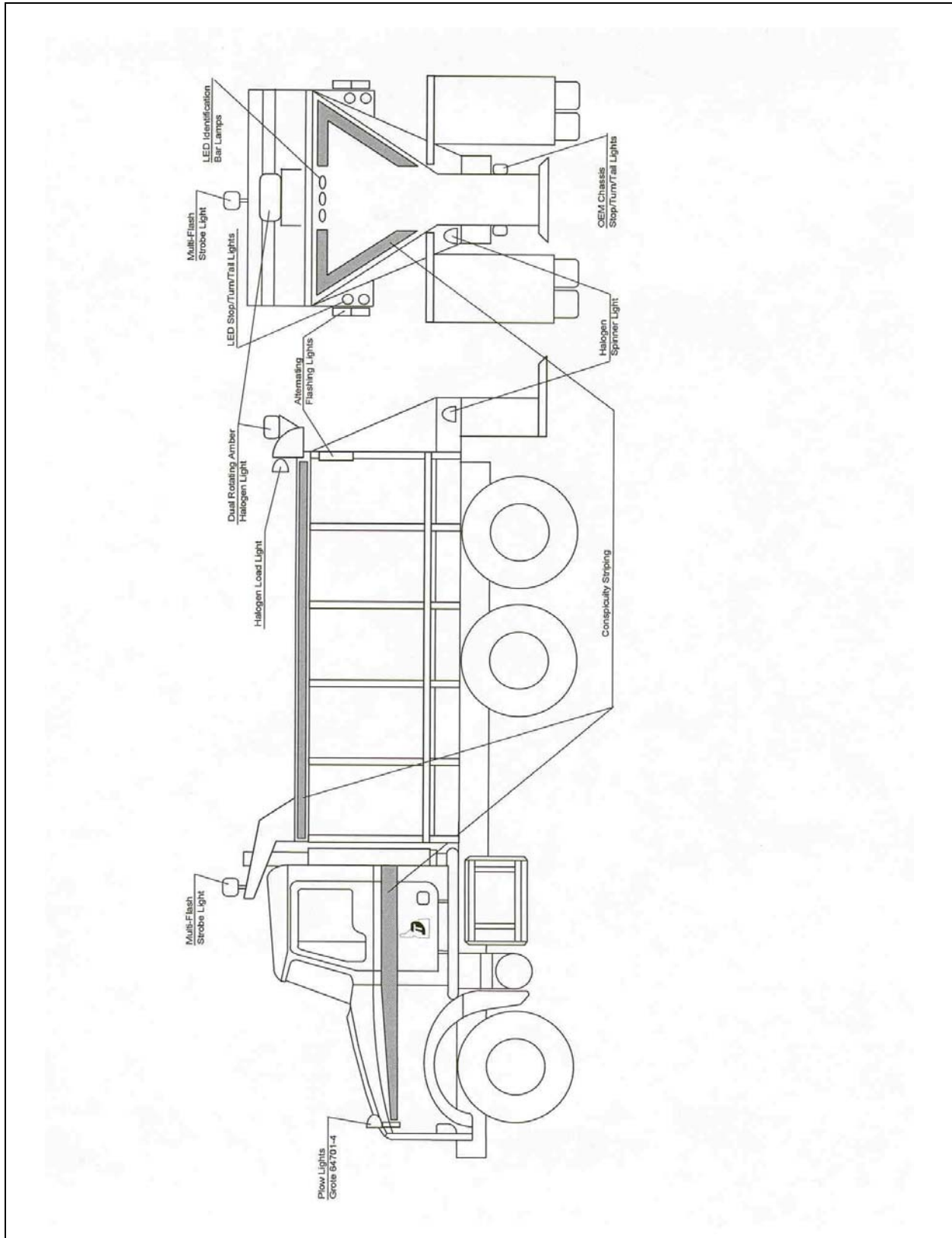
797.0**BACK-UP ALARMS**

The following guidelines are established for back-up alarms to improve the safety of the individuals working on and around ITD equipment. These guidelines were established as policy for audible ambient self-adjusting back-up alarms on Department equipment.

Back-up alarms are to be installed on all Department pickups, vans, trucks above 10,000 lb. GVW, and construction equipment when the operator cannot see directly behind or out of the rear window and has to use outside mirrors while backing.

All the Department's self-propelled construction equipment (e.g., loaders, graders, backhoes, etc.) will be equipped with an audible ambient self-adjusting back-up alarm, to include equipment used in shops and warehouse areas such as tugs, cranes, and forklifts.

Figure 700-21
ITD SANDER LIGHT MOUNTING



COMMUNICATIONS (800)**805.0 EQUIPMENT ACQUISITION**

It is recognized that two-way radios are an important tool for communication by ITD personnel. Continuous review of the type, quality and quantity of radios purchased is required to ensure that ITD manages this resource effectively and efficiently.

The current expected service life for these radios is seven years. However, if the cost to repair a radio is more than one-half the cost to replace it, the radio should be replaced regardless of age. The Idaho Department of Administration Division of Information Technology and Communications Services, Microwave Services (MS) maintains an inventory of all two-way radios, including the year purchased, and annually will recommend to ITD which radios have reached their useful life and should be replaced. MS will also annually review the features of mobile and handheld radios available commercially and recommend those which ITD should purchase.

Supply Services will monitor ITD radio purchases to ensure that MS recommendations are being followed. Radios, other than the recommended models, may be purchased for certain equipment or positions if the additional cost can be justified. These “non-standard” radios will require approval of the Assistant Chief Engineer (Operations) on a case-by-case basis.

District Engineers, Assistant District Engineers and Regional/Maintenance Engineers are expected to monitor district requests for mobile and handheld radios to verify that efficient and effective use is being made of all communication media.

810.0 TWO-WAY RADIO COMMUNICATIONS

The department's radio communications system is a UHF repeater system selectable by utilizing subaudible tone for activation of the different repeaters. Three radio frequency channels are used in "pairs," which is discussed in [Section 813.0](#).

811.0 POLICY

The Federal Communications Commission (FCC) regulates radio transmissions and issues licenses for radio stations.

812.0 RESPONSIBILITY

Each employee operating the department's radio facilities is responsible for conforming with FCC Rules. Violation of the FCC Rules and Regulations is a very serious matter and can result in fines and imprisonment.

The sections of FCC Rules which most directly apply to our operations are:

SUBPART N

Sec. 90.403 General Operating Requirements

- (c) Each licensee shall restrict all transmissions to the minimum practical transmission time and shall employ an efficient operating procedure designed to maximize the utilization of the spectrum.
- (d) The Commission expects each licensee to take reasonable precautions to prevent unnecessary interference.

Sec. 90.425 Station Identification

Each station or system shall be identified by transmission of the assigned call sign during each transmission or exchange of transmissions.

Sec. 90.433 Operator Requirements

- (a) All transmitter adjustments or tests during the installation, servicing, or maintenance of a radio station which may affect the proper operation of such station shall be made by or under the immediate supervision and responsibility of a person holding a general commercial radio operator license (usually Bureau of Microwave Services personnel), who shall be responsible for the proper functioning of the station equipment.

Sec. 90.23 Highway Maintenance Radio Service

- (a) Eligibility. Any territory, possession, state, county, city, town and similar governmental entity is eligible to hold authorizations in the highway maintenance radio service to operate stations for transmission of official highway activities of the licensee.

As an operator of two-way radio equipment, you must be thoroughly familiar with the rules that apply to your particular type of radio operation. Following these rules will help to eliminate confusion, assure the most efficient use of existing radio channels, and result in a smoothly functioning radio network.

When using your two-way radio, remember these rules:

- It is a violation of FCC Rules to interrupt any distress or emergency message. And, as your radio operates in much the same way as a telephone "party line," always listen to make sure that the line is clear – that no one else is on the air before sending messages. If someone is sending an emergency message, such as reporting a fire or asking for help in an accident, KEEP OFF THE AIR! Emergency calls have priority over all other messages.

- Use of profane or obscene language is prohibited by federal law.
- It is against the law to send false call letters or a false distress or emergency message.
- The FCC requires that you keep conversations brief and confine them to business. To save time, use coded messages whenever possible.
- Using your radio to send personal messages (except in an emergency) is a violation of FCC rules. You may send only those messages that are essential for the operation of your business.
- It is against federal law to repeat or otherwise make known anything you overhear on your radio. Conversations between others sharing your channel must be regarded as confidential.
- The FCC requires that you identify yourself at certain specific times by means of your call letters. Refer to [Section 816](#) for the rules that apply to your particular type of operation for the proper procedure.
- No changes or adjustments shall be made to the equipment except by an authorized or certified electronic technician.

In addition to the rules above, remember that the news media and the public can monitor your radio communications by using scanners. Therefore, use common sense when communicating over the radio. Information of a sensitive nature or that should not be made public should be communicated other ways, such as by phone or cellular phone.

813.0

GENERAL

The radio signal from a mobile station or control station at a fixed office location is received at a "mobile relay" (repeater) station, usually a mountain top location, and retransmitted automatically on a "paired" radio channel to be received by mobile or control stations. Control and mobile stations send messages on one radio channel and receive on an associated different channel. The principal effect of the system is a significantly greater communications range between mobile stations.

Several repeaters are used in each district to provide adequate communications over the entire area. In order to select the particular repeater to be operated, control stations and mobile stations automatically apply a low level subaudible tone to the radio signal being transmitted. Only the repeater that has been equipped to decode the selected subaudible tone will rebroadcast the signal. Tone control is accomplished by the control or mobile station operator using a switch on an assembly made part of the control head or station. In most mobile cases, the repeater is selected by selecting different radio channels on the mobile. Contact your local communications office for channel information in your assigned area.

One of the best features of the repeater system is that a mobile radio operator can determine if he is within range of the base station. The repeaters are designed to stay on for a few seconds after the mobile or base station ceases transmission. Thus, to determine if a vehicle is within range of a particular repeater, select the proper tone and key the radio for approximately two seconds. If the vehicle is within a good communications area, the receiver will remain quiet for a few seconds and then sound a distinct click. If the vehicle is within a poor communications area, the receiver will give a crackling noisy sound for a few seconds before the click. If the vehicle is completely out of range, nothing will be heard.

In most districts there will be areas where more than one repeater will be able to be used at the same time. If two or more repeaters are simultaneously turned on, the message will be completely lost at the base station. This occurs when the base and mobiles are using different tones. To avoid this problem, the person initiating the call should always announce the tone being used. Once communications are established, the tone number may be omitted from each call.

A mobile in many parts of a district will be able to hear only one repeater. Thus, the base may be communicating with a mobile at the same time another mobile initiates a call. This will cause the base to hear two repeaters simultaneously and the message will be lost. This problem cannot be avoided; however, its effects may be reduced. When a mobile initiates a call, it should make its first call as short as possible. In this way, the interruption will be short. The calling mobile should then wait until the base calls back. The calling mobile should not initiate a second call to the base for at least one minute if the first call is not answered.

The 450 MHz radio band is primarily line of sight. Thus, if the mobile operator is unable to make radio contact in one location, he may, by moving a short distance, be able to provide the line of sight from the mobile radio to the repeater, which is necessary for communications. If the mobile operator is in a fringe communications area and is unable to make radio contact while the vehicle is in motion, the vehicle should stop and another attempt made to contact the base.

All department radios have a wide-spaced transmitter system in order to receive car-to-car and repeater calls on the same channel. It is possible for car-to-car communications to override the base station calls. At all times, it is important to monitor the channel before transmitting in order to keep interference to a minimum.

When two mobiles need to communicate, they should use the car-to-car channel whenever possible. This channel is designed for short ranges only and will create a minimum of interference with other mobiles.

Due to the continuous use of radio-transmitting equipment at certain times of the year, it is necessary that cut out timers be installed on base station radios. These timer controls will allow for maximum continuous transmitting time of three minutes, which is required to prevent station burnout due to overheating of the final amplifier.

For identifying repeater use, it may be a good idea to use the repeater mountain location rather than a tone number or channel number. This is due to the various ways that access is obtained by the different radio configurations. District personnel using tone encoders should solely use tone numbers. If no encoders are used, just channels, call out the channel number. By far, the best would be to use mountain locations for the descriptor part of the call.

814.0 LIST OF REPEATERS STATEWIDE

	DISTRICT 1	TRANSMIT 458.150	RECEIVE 453.150
TONE	REPEATER LOCATION	COVERAGE AREA	
1	BLACK MTN.	BONNERS FERRY TO CANADA	
2	SCHWEITZER	SANDPOINT TO MONTANA BORDER	
3	MICA PEAK	COEUR D'ALENE TO WASHINGTON	
4	WARDNER PEAK	KELLOGG AND SILVER VALLEY	
5	ST. JOE BALDY	ST. MARIES-ST. JOE RIVER TO DISTRICT 2	
6	HOODOO	PRIEST RIVER/SPIRIT LAKE	
7	LOOKOUT EAST	I-90 MONTANA BORDER	
9	MONTANA	MONTANA/IDAHO CO-OP	

CONTACT YOUR COMMUNICATIONS OFFICE FOR CHANNEL INFORMATION IN
YOUR ASSIGNED AREA

	DISTRICT 2	TRANSMIT 458.450	RECEIVE 453.800
TONE	REPEATER LOCATION	COVERAGE AREA	
1	COTTONWOOD	COTTONWOOD	
2	COLDSPRINGS	RIGGINS AREA	
3	WHITEBIRD HILL	WHITEBIRD AREA	
4	CASTLEBUTTE	LOCHSA AREA	
6	MOSCOW MTN.	MOSCOW AREA	
7	TEAKEN BUTTE	OROFINO AREA	
8	CULDESAC	CULDESAC AREA	
9	PILOT KNOB	SOUTH FORK	
10	WOODRAT	KAMIAH	

CONTACT YOUR COMMUNICATIONS OFFICE FOR CHANNEL INFORMATION IN
YOUR ASSIGNED AREA

	DISTRICT 3	TRANSMIT 458.150	RECEIVE 453.150
TONE	REPEATER LOCATION	COVERAGE AREA	
1	JACKSON PEAK	S.H. 21-LOWMAN AREA	
2	PILOT PEAK	S.H. 21-IDAHO CITY AREA	
3	SHAW MTN.	S.H. 21-LUCKY PEAK/EAST BOISE AREA	
4	SHAFFER BUTTE	BOISE VALLEY/HORSESHOE BEND AREA	
5	SNOWBANK	CASCADE TO MCCALL/CAMBRIDGE TO COUNCIL	
6	BRUNDAGE MTN.	MCCALL/NEW MEADOWS AREA	
6	CINNIBAR	RIDDLE/GRASMERE/BRUNEAU/DUCK VALLEY AREA	
7	STURGILL PEAK	U.S. 95-FRUITLAND/WEISER/MIDVALE/CAMBRIDGE	
8	S. SQUAW BUTTE	U.S. 95-MARSING TO OREGON BORDER	
9	PACKER JOHN	S.H. 55-HORSESHOE BEND/BANKS/CASCADE	
10	BENNETT MTN.	I-84/U.S. 20-MTN. HOME AREA	

CONTACT YOUR COMMUNICATIONS OFFICE FOR CHANNEL INFORMATION IN YOUR ASSIGNED AREA

	DISTRICT 4	TRANSMIT 458.050	RECEIVE 458.050
TONE	REPEATER LOCATION	COVERAGE AREA	
1	HARRISON	US 93 / TWIN FALLS AREA	
2	KETCHUM BALDY	WOOD RIVER VALLEY	
3	BELL MOUNTAIN	TIMMERMAN HILL / CAREY AREA	
4	ALBION BUTTE	ALBION/DELCO / RUPERT / BURLEY AREA	
5	DAVIS MOUNTAIN	FAIRFIELD / BLISS / SHOSHONE AREA	
6	ELLEN DEE MOUNTAIN	NEW REPEATER ON S. US 93	
7	SWEETSER SUMMIT	I-84 SUBLETT / COTTRELL / JUNIPER AREA	
8	BASIN BUTTE	STANLEY BASIN AREA	
9	POTAMAN PEAK	SUNBEAM / CLAYTON / CHALLIS AREA	
10	GALENA SUMMIT	N. KETCHUM TO STANLEY / SNRA	

CONTACT YOUR COMMUNICATIONS OFFICE FOR CHANNEL INFORMATION IN YOUR ASSIGNED AREA

	DISTRICT 5	TRANSMIT 458.150	RECEIVE 458.150
ZONE	REPEATER LOCATION	COVERAGE AREA	
1	MANSFIELD RIDGE	I-15-MALAD AREA	
2	PAPS PEAK	I-86-AMERICAN FALLS AREA	
3	EAST BUTTE	BLACKFOOT AREA	
4	SEDGWICK PEAK	SODA SPRINGS/DOWNEY/PRESTON	
5	HELL HOLE	MONTPELIER AREA	
6	CHINK'S PEAK	POCATELLO AREA	
7	BLACK MTN.	S.H. 34-WAYAN AREA	
8	ALBION BUTTE	I-86-AM. FALLS/ROCKLAND VALLEY	

CONTACT YOUR COMMUNICATIONS OFFICE FOR CHANNEL INFORMATION IN
YOUR ASSIGNED AREA

	DISTRICT 6	TRANSMIT 458.450	RECEIVE 453.800
ZONE	REPEATER LOCATION	COVERAGE AREA	
1	GRIZZLY MTN.	LEADORE	
2	RELAY RIDGE	IDAHO FALLS/DRIGGS AREA	
3	KELLY MTN.	RIRIE TO SWAN VALLEY	
3	SALMON BALDY	SALMON AREA	
4	GROUSE PEAK	CHALLIS AREA	
5	EAST BUTTE	ARCO AREA	
6	MONIDA	I-15-SPENCER TO MONTANA	
7	BLACK MTN.	PALISADES TO ALPINE WY	
8	ASHTON HILL	ISLAND PARK AREA	
8	STEIN MTN.	NORTH SALMON TO MONTANA	
10	MACKAY PEAK	U.S. 95-MACKAY AREA	

CONTACT YOUR COMMUNICATIONS OFFICE FOR CHANNEL INFORMATION IN
YOUR ASSIGNED AREA

815.0 MOBILE RADIOS

All mobile radios will hear calls from both the base station and other mobiles. An important fact to remember is that even though both calls can be heard, the radio must be on the correct channel in order to answer the call. The best practice to follow when calling through a repeater is to identify the tone on which the calling party is talking. A proper call should include all of the following information: (Station Being Called) (Calling Station) (Repeater Tone).

Key the mic. Wait about one second. Then talk across the mic face and say the following:

" 6 0 from 6 9 0 Tone 2 "

(Station Being Called) (Calling Station) (Repeater Tone)

Pronounce each numeral separately.

Refer to the manufacturer's operating manual for instructions on the proper operation of each type of mobile radio.

816.0 BASE STATIONS

The base station operates on Channels 1, 2 or 3, depending on which district is involved. Electrical power is continuously supplied to fixed stations and control consoles; it is not necessary to turn a power switch on. The station will always be in condition to receive messages.

Monitor the channel before making a call. If there are no communications in process with the desired station, proceed to place the station in condition to transmit:

- Select the proper radio channel and tone.
- Place the station in transmit condition by depressing the "talk" switch on the microphone. Pause one second or so before beginning to talk. (Electrical and mechanical functions are involved in preparing the station transmitter.) Depress the "talk" switch firmly while you are transmitting.
- Speak in a normal tone of voice. The loudness of your outgoing message is chiefly regulated by changing the distance from your mouth to the microphone. There are no external knobs on the radio unit to regulate the loudness of the message you are sending. Speak directly into the microphone. A distance from six to eight inches between the mouth and microphone is suggested although the proper distance varies considerably between individuals.
- The prescribed procedure is: "Called station – from calling station." Pronounce each numeral separately.

All conversations must be concluded by identifying the fixed station. No call sign is required from a mobile station transmitting solely on the frequency of the associated

base station. A mobile unit operating on frequency channels for car-to-car use only or through mobile relay, concludes the message exchange with the mobile call sign.

Don't rush! It is far more effective to state your message once, slowly and distinctly, than to have to repeat. Each message should be as direct and brief as practical. Remember, you are talking to a person and conversational language is usually more easily understood.

The talk switch must be released to hear a reply from the station called.

The operator at the base station's control point concludes the message exchange by stating the FCC assigned call letters for the base station ([see Figure 816](#)).

In certain districts, multiple base stations are necessary to cover the whole district. Thus, some repeaters in these districts will have the same numbered tone. It is particularly important in these districts to use the proper call sign.

Figure 816

IDAHO TRANSPORTATION DEPARTMENT RADIO STATIONS

Call	Frequency	Location
<u>DISTRICT 1</u>		
WNNO 700		Hoo Doo
KVP 690	453.150, .800	Schweitzer Peak
KVP 689	453.150, .800	Mica Peak
WSY 86	458.150, .450	Mica Peak
KWF 764	453.150, .800	Black Mtn. (Bonners Ferry)
KWF 765	453.150, .800	Wardner Peak
KWF 766	453.150, .800	St. Joe Baldy Mtn.
KWT 648	453.150	Osburn Engr. Office
WAH 220	458.150, .450	Osburn Engr. Office
WAS 591	458.150, .450	Coeur d'Alene
KXM 915	453.150, .450	Coeur d'Alene
WNXC 720		Elk Butte
<u>DISTRICT 2</u>		
KAQ 516	453.150, .800	Teakon Butte
WCH 765	458.150, .450	Moscow
KPV 688	453.150, .800	Cottonwood Butte
WZB 284	453.150, .800	Pilot Knob
WSY 85	458.150, .450	Cottonwood Butte
WBL 269	458.150, .450	Powell
KWT 642	453.150, .800	Culdesac Grade
KXX 696	453.150, .800	Cool Water
KWT 647	453.150, .800	Castle Butte
KWT 643	453.150, .800	Lewiston Grade
WAH 221	458.150, .450	Lewiston Grade
KXM 914	453.150, .800	Moscow Mtn.
KZF 877	453.150, .800	Powell
WCL 745	458.150, .450	Reed Bar
WBL 268	458.150, .450	Bald Mtn.
KZF 876	453.150, .800	Bald Mtn.
WCH 76	458.150, .450	Grangeville
WNKI 561		Whitebird
<u>DISTRICT 3</u>		
KRE 319	453.800, .150	Doe Point
KRE 320	453.800, .150	Dist. 3 Headquarters
KRE 321	453.800, .150	Shafer

Figure 816 (Contd)

<u>Call</u>	<u>Frequency</u>	<u>Location</u>
<u>DISTRICT 3</u> (Contd)		
KRE 322	453.800, .150	Snowbank
WSZ 42	458.150, .450	Shafer
KVN 868	453.150, .800	Cold Springs Ridge
WSZ 43	458.150, .450	Snowbank Mtn. (Hwy Dist. 3, North Channel)
KVR 959	453.150, .800	Lucky Peak
KVR 960	453.150, .800	Jackson Peak
KWT 646	453.150, .800	Brundage Mtn.
KXQ 798	453.150, .800	Nat'l Guard Armory, Boise
WAU 685	458.150, .450	Nat'l Guard Armory, Boise
WNIZ 786		Packer John
KNHT 843		Pilot Peak
WNPH 918		Sturgil
<u>DISTRICT 4</u>		
WPML 404		Galena
WNNI 263		Harrison
WPCV 751	453.050; 458.050	Bell Mountain
KNNF 809		Sweetzer
KUE 642	453.050	Albion Ridge
KUZ 870	453.050	Baldy Mtn., Ketchum
KUZ 871	453.050	Notch Butte
WSR 65	458.150	Notch Butte
KXX 308	453.050	Davis Mtn.
KVN 870	453.050	Weigh Station, Bliss
KNFG 813	453.050	Basin Butte
WSZ 40	458.150	Basin Butte
KWJ 252	453.050	Flat Top Butte
KXM 917	453.050	Shoshone
WAS 593	458.050	Shoshone
KNGB 859	453.050	Cotterell POE
<u>DISTRICT 5</u>		
KUE 644	453.150, .800	Hell Hole Ridge
KUE 643	453.150, .800	Chinks Peak
KUG 805	453.150, .800	Sedgwick Peak
WNJN 367	453.150, .800	Malad Hill
WSR 63	458.150, .450	Sedgwick Peak
WSR 62	458.150, .450	Chinks Peak
KWT 641	453.150, .800	Paps Peak

Figure 816 (Contd)

Call	Frequency	Location
<u>DISTRICT 5</u> (Contd)		
KWT 645	453.150, .800	Vortac Hill
KXM 916	453.150, .450	Pocatello
WAS 592	458.150, .450	Pocatello
WNRM 750	458.150, .450	Black Mountain
<u>DISTRICT 6</u>		
KVN 866	453.150, .800	Grouse Peak
WSR 64	458.150, .050	Grouse Peak
KVP 692	453.150, .800	Relay Ridge
KVP 694	453.150, .800	Baldy Mtn. (Salmon)
KZE 757	453.150, .800	Mackay Peak
KVP 691	453.150, .800	East Butte
KKW 209	453.150, .800	Kelly Mtn.
KVP 693	453.150, .800	Rigby
WSY 87	458.150, .450	Rigby
WSY 88	458.150, .450	Salmon
WDQ 926	458.150, .450	Idaho Falls
KVP 695	453.150, .800	Salmon
KKC 758	453.150, .800	Grizzly
KWT 644	453.150, .800	Big Bend/Ashton Hill
KOV 25	161.73; 156.99	Salmon Baldy
KOV 26	157.41	Salmon
WNIX 675	453.150, .800	Monida Mountain
WNJZ 618	453.150, .800	Potaman Peak
WNNE 628	453.150, .800	Stein Mountain
WBZ 304	458.450 – 150	Salmon Building Control
<u>DISTRICT 9</u>		
KM 8393	453.050, .150, .800 458.050, .150, .450	Anywhere
KE 5709	2950-3050	Anywhere
KOH 968	2455	Radar Anywhere
KC 3174	2455	Radar Anywhere
KWT 640	453.150, .800	Any temporary fixed location

817.0 DEFECTIVE OR INOPERATIVE RADIO EQUIPMENT

The operator on duty at the fixed station control point for the area has the responsibility of reporting defective radio equipment to the radio technician for the area. WILLFUL DAMAGE TO RADIO TRANSMITTING EQUIPMENT IS A FEDERAL OFFENSE. ANY EVIDENCE OF SUCH DAMAGE SHOULD BE REPORTED IMMEDIATELY TO YOUR SUPERVISOR AND SECTION HEAD, LOCAL LAW ENFORCEMENT OFFICIALS, AND THE FBI AS WELL AS TO THE BUREAU OF MICROWAVE SERVICES.

817.1 Outside Agency Frequencies

To have frequencies added to the radio, it is required that there be a letter on file at the Bureau of Microwave Services shop for the outside agency's frequency authorizing use.

818.0 UNIT IDENTIFIERS

All base stations and mobile units have been assigned unit identifiers that will be used when calling or referring to these stations.

<u>Location</u>	<u>Identifier</u>
Coeur d'Alene	10
Shop	11
Maintenance Office	12
Coeur d'Alene Res	13
Osburn Res.....	14
Sandpoint	17
Bonners Ferry	18
Coeur d'Alene Traffic	19
Huetter POE.....	812
Bonners Ferry POE.....	816
Lewiston	20
Shop	21
Maintenance Office	22
Lucile	23
Moscow.....	24
Craigmont	25
Fleming.....	26
Orofino.....	27
Lewiston Res	28
Grangeville	29
Lewiston POE.....	822
Lewiston Hill POE.....	823

<u>Location</u>	<u>Identifier</u>
Boise	30
Shop	31
Maintenance Office	32
Service Station	33
Res A	34
Res B	36
Res C	37
Marsing POE	838
East Boise POE	890
Horsebend POE	894
Shoshone	40
Shop	41
Central Maintenance/Construction	42
Rupert	43
Shoshone Mtc.	45
Jerome	46
Hailey	48
Twin Falls	49
Hollister POE	844
Cotterell POE	847
Pocatello	50
Shop	51
Maintenance Office	52
Supply	53
Inkom POE	852
Rigby	60
Shop	61
Maintenance Office	62
Supply	63
Region Two Control	64
Region One Control	68
Salmon	69
Sage Jct. POE	86
Division of Aero & PT	95

Base stations are identified by two-digit numbers. The first digit indicates the district in which the station is located. The second digit zero indicates the district headquarters. Subsequent numbers in the second digit indicate base stations within the district.

Mobile units are identified by numbers that include the maintenance foreman area number and end with the third digit that identifies specific personnel.

Example: Designator 3 9 0 is the maintenance foreman at Idaho City.

3 = Mobile unit associated with District 3.

9 = Number assigned to Idaho City foreman area.

0 = Maintenance foreman number used statewide.

District and Boise headquarters staff are assigned specific designator numbers for each position description (see [Figure 818-A](#)). The designator is a three-digit number. The first number identifies the district or headquarters (9). The last two digits identify the position description.

Example: 9 01 is the Chief Engineer.

5 11 is the District 5 shop foreman.

Employees that report to a listed designated position (see [Figure 818-A](#)) may use the listed number or their supervisor with a fourth digit.

Example: 511-1 is a traveling mechanic attached to the District 5 shop foreman.

For job position designators outside the district and headquarters offices, select the particular foreman area from [Figure 818-B](#). The foreman area number is the first two digits of the designator.

The third digit (1 through 8) should be assigned by the maintenance foreman in his area. Maintenance personnel should be assigned a third digit number 1 through 8. Zero in the third digit is reserved statewide for the maintenance foreman.

The following table should be used:

<u>Position Description</u>	<u>Third Digit Number</u>
Maintenance Foreman	0
Maintenance Personnel	1
Maintenance Personnel	2
Maintenance Personnel	3
Maintenance Personnel	4
Maintenance Personnel	5
Maintenance Personnel	6
Maintenance Personnel	7
Maintenance Personnel	8

Employees that report to a listed designated position may use the listed number of this position with an added fourth digit.

Figure 818-A

**MOBILE RADIO
DISTRICT AND HEADQUARTERS STAFF DESIGNATORS**

District Staff	Position Description	Headquarters Staff
	- 00	ITD Director
District Engineer	- 01	Chief Engineer
Transportation Planner	- 02	Transportation Planning Admin.
ADE(E)	- 03	Motor Vehicles Administrator
ADE(O)	- 04	Asst. Chief Engineer (O)
Dist. Mtce. Engr., Regional Engr.**	- 05	Maintenance Engineer
Dist. Mtls. Engineer	- 06	Materials Engineer
Dist. Loc. Engineer	- 07	Environmental Manager
Dist. Design Engineer	- 08	Design Engineer
Dist. Traffic Engineer	- 09	Traffic Engineer
**	- 10	Construction Engineer
Shop Foreman	- 11	Equipment Superintendent
Special Mtce. Foreman	- 12	Bridge Inspection Engr.
Mtce. Foreman (Bridge)	- 13	Maintenance Quality Specialist
Mtce. Foreman (Striping)	- 14	Traffic Services (Road Inventory)
Sign Foreman	- 15	Sr. POE Insp. (Huetter)
Supply Superintendent	- 16	P&MM Supervisor
R/W District Agent	- 17	Right-of-Way Supervisor
	- 18	Dealer Invest. (C.d'A)*
FHWA - Area Engineer	- 19	POE Manager
	- 20	Dealer Invest. (Boise)*
	- 21	Trans. Planning Administrator
	- 25	Sr. POE Inspec. (Lewiston)
	- 30	Dealer Invest. (Boise)*
	- 31	Aero & P.T. Administrator
	- 32	Airport Development Supervisor
	- 33	Transportation Maintenance Supervisor (Aero.)
	- 40	Dealer Invest. (Twin Falls)*
	- 45	Sr. POE Inspec. (Bliss)
	- 46	Sr. POE Inspec. (Cotterell)
	- 47	Sr. POE Inspec. (Holister)
	- 50	Dealer Invest. (Idaho Falls)*
	- 55	Sr. POE Inspec. (Inkom)
	- 60	Dealer Invest. (Idaho Falls)*
	- 65	Sr. POE Ins. (Beeches Cor.)
	- 91	Roving POE(s), District 1*
	- 92	Roving POE(s), District 2*
	- 93	Roving POE(s), District 3*
	- 94	Roving POE(s), District 4*
	- 95	Roving POE(s), District 5*
	- 96	Roving POE(s), District 6*

*Use the four-digit system when more than one roving POE or Dealer Investigator is assigned to one district, e.g., 993-1 and 993-2 would be the designators for two roving POEs assigned to District 3. Similarly, 930-1 and 930-2 would designate two Dealer Investigators in District 3.

**Use the four-digit system to identify the specific region for Regional Engineers within a district, e.g., 305-1 and 305-2 would be the designators for District 3, Regional Engineers for Regions 1 and 2.

Figure 818-B

**MOBILE RADIO
DISTRICT FIELD DESIGNATORS**

	<u>Maintenance Foreman Location</u>	<u>Foreman Area No.</u>
<u>DISTRICT 1</u>	Bonnors Ferry	12
	Sandpoint	13
	Osburn	14
	St. Maries	15
	Coeur d'Alene (South & West)	16
	Coeur d'Alene (North & East)	17
<u>DISTRICT 2</u>	Lewiston	22
	Moscow	24
	Craigmont	25
	Fleming	26
	Orofino	27
	Grangeville	29
<u>DISTRICT 3</u>	New Meadows	32
	New Plymouth	33
	Boise	34
	Mountain Home	35
	Caldwell	37
	Banks	38
	Idaho City	39
<u>DISTRICT 4</u>	Rupert	43
	Shoshone	45
	Jerome	46
	Hailey	48
	Twin Falls	49
<u>DISTRICT 5</u>	Malad	53
	Pocatello	54
	Preston	55
	Blackfoot	56
	American Falls	57
	Soda Springs	58
	Montpelier	59
<u>DISTRICT 6</u>	Ashton	64
	Sugar City	65
	Salmon	66
	Arco	67
	Dubois	68
	Rigby	69

Example: Multiple shift operators
Inspectors
Temporary replacement, etc.

The first digit of the designator of personnel attached to the districts will be the district number plus the position description.

Example: District 3 Maintenance Engineer – 305
FHWA Engineer District 3 – 319

The first digit of the designator of personnel attached to the headquarters staff will be "9" followed by the position description.

819.0 SAFETY

DO NOT carry extra gasoline tanks in closed compartments with radio equipment. A spark from relay contacts in the radio equipment may ignite accumulated vapors and result in a serious explosion.

DO NOT use transmitting equipment when within 1,000 feet of any part of an electric blasting circuit. Radio hazard with electric blasting caps exists when the original bundle of wires has been disturbed, extended or spliced.

DO NOT open the cabinet or case of any radio unit unless specifically instructed by the radio technician and are under his direct supervision. High voltage may be present to result in painful if not fatal shock.

Always turn off cellular phones and other transmitting equipment when fueling vehicles.

In the event of a fire in a radio cabinet, use a chemical fire extinguisher. Water should not be used to extinguish fires in any electrical apparatus as the water may provide a path for electric current and result in shock.

820.0 MAINTENANCE WORK REQUESTED BY BUREAU OF MICROWAVE SERVICES

The Bureau of Microwave Services occasionally requests maintenance or minor construction work be accomplished by state forces at their telecommunications facilities around the state.

Before any work that will cost more than \$1,000.00 is performed, a written request detailing the work must be submitted to the Maintenance Supervisor for approval. If approval is granted, a work authorization is to be initiated for project.

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MAINTENANCE MEMOS

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2	Equipment Rental Rates
3	Utility Craftsman's Tools
4	Informal Bidding Requirements
5	Equipment Compliments
6	Mechanic's Tool Allowance

MAINTENANCE SECTION

MEMORANDUM NO. 1

DATE OF ISSUE: OCTOBER 2004

SUBJECT: WINTER ROAD CONDITION REPORTING

FOR SPECIAL ATTENTION OF: HOLDERS OF MAINTENANCE MANUAL

EXPIRATION DATE: OCTOBER 2005

The Winter Road Condition Report will begin on Monday, November 1, 2004 at 9:00 AM. If weather conditions warrant an earlier start, the Maintenance Section will coordinate a revised implementation date.

There will be only two updates a day for the early and late season reports. From November 22 to March 31, there will be the standard four updates per day. The schedule will be:

November 1 to November 21	Updated only at 9:00 AM and 3:00 PM
November 22 to March 31	Updated at 5:30 AM, 9:00 AM, 3:00 PM and 7:00 PM
April 1 to April 30	Updated only at 9:00 AM and 3:00 PM

*Note: The four-a-day reporting period will always begin the Monday before Thanksgiving Holiday, unless severe weather forces an earlier start.

The State Communication Center (SCC) will be responsible for collecting field data, entering data into the Road Report software, and posting the information to the Internet. The Public Affairs section will check the data and record the information to the phone report for all reporting times. If conditions change significantly between scheduled reporting times, each district is responsible for notifying SCC, and SCC will input the data and post the new report. The Road Report software allows the data to be transmitted electronically, immediately after being input. Detailed procedures on winter road condition reporting are contained in Section 5-331.4 of the Maintenance Manual and in the Winter Road Report procedure in the Dispatch Manual.

There has been no significant change in the operation of the statewide road report number, 1-888-IDA-ROAD (1-888-432-7623). The Public Affairs section will be responsible for recording Regional (i.e., two districts per region) and Statewide reports.

DAVID JONES, P.E.
MAINTENANCE ENGINEER

MAINTENANCE SECTION**MEMORANDUM NO.2**

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DATE OF ISSUE: October 2004

SUBJECT: EQUIPMENT RENTAL RATES

FOR SPECIAL ATTENTION OF: HOLDERS OF MAINTENANCE MANUAL

Category	Class	Description	Rental Rate	Category	Class	Description	Rental Rate
100	ZZ	Automobiles	\$0.24/mi	TRUCKS, 3-AXLE 43 - 65,000 LB GVW			
102	ZY	Automobiles, Electric	\$0.66/mi	372	AK	Sander/Dump Truck	\$22.10/hr.
200	ZA	Pickup <6200 GVW, Small	\$0.33/mi	373	KG	Rockbed Truck	\$20.05/hr.
202	ZP	Pickup <6200 GVW, Large	\$0.22/mi	374	AY	Sander/Dump Truck w/Wing Plow	\$27.00/hr.
204	ZQ	Pickup, 6300-9000 GVW	\$0.42/mi	375	AL	Core Drill Truck	\$45.00/hr.
206	ZT	Truck, POE Rover	\$0.39/mi	376	AM	Tractor Truck	\$21.80/hr.
207	ZX	Pickup 4 x 4, Small	\$0.15/mi	379	KH	Snooper Truck	\$162.20/hr.
208	XK	Pickup 4 x 4, Large	\$0.60/mi	390	BX	Distributor > 1300 Gallons Truck	\$23.20/hr.
209	XL	Truck, 4 x 4, Utility	\$2.40/mi	392	KI	Multipurpose Truck	\$11.70/hr.
210	ZB	Vans, 4 x 2, Small	\$0.16/mi	393	KJ	Water Truck 2500 Gallons	\$22.40/hr.
211	XM	Vans, 4 x 2, Full Size	\$0.34/mi	WHEEL TRACTORS			
212	XJ	Vans, 4 x 2, Testing	\$0.20/mi	401	AP	Backhoe	\$11.05/hr.
214	CK	Vans, 4 x 2, Photolog	\$10.00/hr.	402	AN	Loader 1/2 C.Y.	\$32.50/hr.
215	T2	Vans, 4 x 2, T2 Program	\$0.00/mi	404	LS	Loader Skid-Steer	\$23.25/hr.
218	ZC	Suburbans 4 x 4	\$0.27/mi	406	LQ	Loader 1-1/2 - 2 C.Y.	\$5.00/hr.
220	XA	Pickup, >9000 GVW, Reg. Cab	\$0.50/mi	407	LI	Loader 2 - 3 C.Y.	\$11.45/hr.
221	XB	Pickup, >9000, Crew Cab	\$0.20/mi	408	LL	Loader 4 C.Y. +	\$12.00/hr.
222	XC	Truck, >9000, Flatbed	\$0.83/mi	CRAWLER TRACTOR			
223	XD	Truck, 9000 - 15,000 GVW Utility	\$0.70/mi	424	AQ	Dozer, Medium	\$26.05/hr.
224	XE	Truck, Incident Response Unit	\$0.59/mi	426	CF	Dozer, Heavy	\$21.15/hr.
225	XF	Truck >15,000 GVW Utility	\$0.65/mi	MOTORGRADER			
226	XG	Truck, <15,000 GVW, Reg. Cab, Dump	\$0.35/mi	506	AU	Milling Machine	\$34.50/hr.
227	XH	Truck, <15,000 GVW, Crewcab, Dump	\$0.67/mi	508	AR	Motor Grader, 6 x 4	\$26.00/hr.
228	XI	Truck, >15,000 GVW Dump	\$1.50/mi	510	AS	Motor Grader, 6 x 6	\$39.00/hr.
230	TS	Stencil Truck	\$6.00/hr.	600	PH	Pull Grader	\$11.35/hr.
TRUCKS, 20-35,000 LB GVW				610	PG	Pull Windrower	\$5.00/hr.
321	AB	Dump, Patrol 4x2 Diesel	\$12.00/hr.	SNOWPLOW			
322	AC	Distributor 4x2 Truck	\$22.95/hr.	705	ZI	Under Body Snow Plow	None
324	AD	Flatbed 4x2 Truck	\$7.00/hr.	706	ZI	Wing Plow, Grader Mounted	None
326	AG	Crash Attenuator Truck	\$21.50/hr.	707	ZI	Wing Plow, Truck Mounted	None
327	AI	Water Truck - Diesel	\$47.1/hr.				
328	BC	De-Icer Truck	\$100.00/hr.				
329	AE	Skid Test Truck	\$28.00/hr.				
335	KA	Hot Patcher Truck	\$16.75/hr.				
336	KB	Utility 4x2, 4x4 Truck	\$4.75/hr.				
337	AF	Sprayer Truck	\$22.00/hr.				
338	KC	Aerial Tower < 30 ft. Truck	\$3.75/hr.				

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Category	Class	Description	Rental Rate
AIR EQUIPMENT			
799	ZI	Compressor 0-50 CFM	None
800	AT	Compressor 50-160 CFM	\$3.00/hr.
802	AA	Compressor 160 + CFM	\$4.25/hr.
804	ZI	Jackhammer/Rockdrill	None
805	ZI	Breaker (Pavement), Tamper	None
806	ZI	Sandblaster	None
ASPHALT EQUIPMENT			
810	ZI	Distributor < 1300 Gallons	None
811	ZI	Distributor > 1300 Gallons	None
812	AW	Hot Patcher, Truck Mount	\$70.60/hr.
813	AV	Distributor, Tow Type	\$26.10/hr.
814	CV	Crack Filler	\$34.80/hr.
815	CY	Tail Gate Mixer/Patcher	\$188.55/hr.
816	AX	Portable Asphalt Mixer, Tow Type	\$28.00/hr.
818	CA	Laydown Machine, Self-Propelled	\$3.75/hr.
819	CH	Laydown Machine, Pull Type	\$60.00/hr.
821	FA	Deflection Tester Trailers	\$30.75/hr.
822	ZI	Chip Spreader, Pull Type	None
823	AZ	Chip Spreader, Self-Propelled	\$27.25/hr.
BOATS AND BARGES			
825	CN	Barge	\$1.00/hr.
826	CJ	Boat	\$3.75/hr.
827	ZI	Boat Motor	None
828	ZI	Boat Trailer	None
CONCRETE EQUIPMENT			
831	BA	Concrete Mixer	\$32.75/hr.
832	BU	Mortar Mixer	\$10.15/hr.
833	BB	Concrete Saw	\$5.50/hr.
834	BV	Concrete Cutoff Saw	\$10.15/hr.
835	CQ	Scabbler	\$8.75/hr.
836	CR	Crack Router	\$17.00/hr.
837	ZI	Misc. Compactors	None
EARTH DRILLING EQUIPMENT			
841	ZI	Earth Drilling Auger	None
844	ED	Diamond Drill	\$207.00/hr.
846	DA	Abrasive Drill	\$10.00/hr.

Category	Class	Description	Rental Rate
LOADER, CONVEYOR			
860	BE	Conveyor(Belt) Screener Plant	\$3.75/hr.
861	BG	Loader, Belt or Bucket	\$11.50/hr.
MOWERS			
864	MT	Self-Propelled Lawn Tractor	\$7.40/hr
865	ZI	Lawn Mower, Push Type/Self-Propelled	None
866	ZI	Road Side Mower, Sickle	None
867	ZI	Road Side Mower, Rotary	None
868	CB	Chipper, Brush	\$25.00/hr.
869	ZI	Road Side Mower, Slope	None
870	ZI	Road Side Mower, Flail	None
WATER PUMPS			
872	BJ	Water Pump, Light Duty < 3-1/2"	\$10.60/hr
873	BI	Water Pump, Heavy Duty 4" and Up	\$29.00/hr
ROLLERS			
878	BQ	Roller, Pneumatic	\$12.25/hr.
879	BK	Roller, Steel Flat, Self-Propelled	\$57.50/hr.
880	BL	Roller, Small Dual Drum Vibrating Steel	\$19.55/hr.
881	BN	Roller, Large Single Drum Vibrating Steel	\$22.50/hr.
SANDERS			
884	ZI	Tow-Type Sander	None
885	ZI	5 C.Y. Slide-In Sander	None
886	ZI	5 C.Y. Truck Mounted Sander	None
887	ZI	9 C.Y. Truck Mounted Sander	None
888	ZI	9 C.Y. Slide-In Sander	None
889	ZI	Salt Spreader	None
SHOVELS			
902	DL	Excavators	\$18.10/hr.
905	DT	Trencher	\$3.75/hr.
906	ZI	Motorgrader/Loader Attachment	None
SWEEPERS			
907	CG	Street Sweeper Mechanical	\$62.20/hr.
908	CM	Tow-Type Sweeper	\$20.30/hr.
909	CI	Self-Propelled Sweeper	\$33.15/hr.

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Category	Class	Description	Rental Rate
TRAILERS			
915	ZI	Trailer, Semi Low-Boy (Flatbed)	None
916	ZI	Trailer, Semi Belly-Dump	None
918	ZI	Test Camper	None
919	TB	Trailer, Test and Office	\$4.60/hr.
920	BR	Trailer, Tilt Bed/Ramp	\$8.75/hr.
921	TU	Trailer, Utility, 2 & 4-Wheel	\$6.00/hr.
922	BS	Trailer, Sign, Warning	\$5.25/hr.
923	BM	Trailer, Message	\$2.50/hr.
MISCELLANEOUS			
926	LP	Light Plant	\$36.10/hr.
930	ZI	Generators	None
931	WE	Welder	\$3.75/hr.
932	GE	Skid Mt. Generator	\$3.75/hr.
953	ZI	Grain Drill, Harrow	None
954	ZI	Chain Saw	None
956	ZI	Tamper, Hydraulic	None
958	ZI	Misc. Yard Equipment	None
963	BZ	Hydroseed/Mulcher	\$120.00/hr.
965	MS	Mini Striper	\$37.35/hr.
966	BY	Hand Striper	\$16.00/hr.
967	ZI	Sign Washer/Sprayer	None
971	SR	Stripe Remover	\$3.75/hr.
972	BW	ATV (4 Wheeler or Motor Vehicle)	\$14.05/hr.

DAVID R. JONES, P.E.
Maintenance Engineer

MAINTENANCE SECTION

MEMORANDUM NO. 3

DATE OF ISSUE: FEBRUARY 1997

SUBJECT: UTILITY CRAFTSMAN'S TOOLS

Upon employment as a Utility Craftsman, each individual will be assigned the necessary hand tools as determined by his immediate supervisor. As a condition of employment, each Utility Craftsman shall be responsible for the care and maintenance of the tools assigned to him/her. It shall be their responsibility to inform their supervisor of any damaged tools that were issued to them.

Upon termination, separation or advancement from the Utility Craftsman position, that employee will be required to return all tools assigned.

The minimum suggested list of tools to be assigned are:

1. Tool apron, 2¼" wide belt with 2 leather pouches.
2. Combination magnetic screwdriver with 2 Phillips and 2 flat slotted tips.
3. 12" open-end adjustable wrench (crescent).
4. 8" lineman pliers.
5. Channel lock pliers.
6. 16" framing hammer 20 ounce.
7. Combination square.
8. Chalk line – plumb bob with 100' line.
9. 25' tape measure.

The Department will furnish all tools and equipment needed, including the tools assigned to each employee. Upon the loss of any tools assigned to an employee due to negligence, that employee shall be responsible for replacement of those tools at their expense, whereupon the tools will become the property of the State of Idaho Transportation Department. Tools replaced shall be with an equivalent tool and approved by their supervisor.

It is recommended that only high quality tools with lifetime replacement warranties in case of breakage be purchased.

DAVID R. JONES, P.E.
Maintenance Engineer

DATE OF ISSUE: SEPTEMBER 2001

SUBJECT: INFORMAL BIDDING REQUIREMENTS

FOR SPECIAL ATTENTION OF: MAINTENANCE PERSONNEL

EXPIRATION DATE: UPDATE AS NEEDED

Acquisition of services, or supplies and equipment must meet certain purchasing requirements including bidding and approval by the authorized personnel. This memo consolidates informal bidding requirements and designates approval responsibilities. Further information for purchasing services, or supplies and equipment can be found in the PM&M manual.

ROUTINE ACQUISITION OF SUPPLIES AND SERVICES

1. AMOUNTS NOT EXCEEDING \$1,500

Non-capital property items may be purchased by authorized supply center personnel. (P&MM manual 201.3.1)

2. AMOUNTS OVER \$1,500, BUT LESS THAN \$2,500

Single purchases may be made by authorized supply center personnel not to exceed \$2,500 providing the proposed purchase and the informal bid process is documented on ITD-552, Request for Quotation. (P&MM manual 201.2.3 & 201.3.2)

3. AMOUNTS IN EXCESS OF \$2,500, BUT LESS THAN \$25,000

Purchases within this cost range can only be made by the P&MM purchasing agent after an informal or formal bid process is documented. Requests for purchase amounts in this cost range must be filed on an ITD-2379, Supply Request. (P&MM manual 201.3.3)

4. AMOUNTS IN EXCESS OF \$25,000

Requests for purchases in excess of \$25,000 must be submitted to P&MM on the Department of Administration, Division of Purchasing DA-1 Purchase Requisition form, along with an ITD-2379. The Division of Purchasing handles the purchase requirements. (P&MM manual 201.3.4)

EMERGENCY PURCHASE OF SUPPLIES/SERVICES

Emergency purchases in excess of \$1,500 may be authorized by the appropriate authority as indicated below if the proposed purchase:

- Will protect life and/or property
- Is in the best interest of the department
- Can sufficiently document other reasons.

Emergency purchase procedures **shall not** to be utilized in lieu of proper planning. Refer to the P&MM manual 201.4 for greater detail.

1. EMERGENCY PURCHASES OVER \$1,500, BUT LESS THAN \$5,000

Purchases in this cost range may be authorized by the P&MM Manager or Purchasing Agent.

2. EMERGENCY PURCHASE IN EXCESS OF \$5,000

Purchases in this cost range must be approved by the P&MM Manager or Purchasing Agent and by the Department of Administration, Division of Purchasing.

3. EMERGENCY PURCHASE IN EXCESS OF \$25,000

Purchases in this cost range must be approved by the P&MM Manager or Purchasing Agent and by the Department of Administration, Division of Purchasing.

RENTAL OF EQUIPMENT

When the best interest of the department will be served, project equipment may be rented from low bidders as follows: (See Administrative Policy A-06-42.)

1. EQUIPMENT RENTAL COST LESS THAN \$25,000

Oral bids may be received for equipment rental (with or without an operator). Bids should be requested from at least three (3) appropriate sources and documented on an ITD-552, Request for Quotation. Approval should be obtained in accordance with individual District or headquarters Section instructions.

2. EQUIPMENT RENTAL COST IN EXCESS OF \$25,000

Except in emergencies, bids for equipment rental in excess of an estimated \$25,000 per project shall be advertised by Roadway Design and must be approved by the Chief Engineer prior to the bid.

DAVID R. JONES, P.E.
Maintenance Engineer

MAINTENANCE MEMORANDUM

MEMORANDUM NO. 5

DATE OF ISSUE: OCTOBER 2004

SUBJECT: EQUIPMENT COMPLEMENTS

FOR SPECIAL ATTENTION OF: HOLDERS OF MAINTENANCE MANUAL

EXPIRATION DATE: OCTOBER 2005

EQUIPMENT ASSIGNMENT AND UTILIZATION

The Equipment Superintendent will review utilization of all categories of equipment each February as required in subsection 770.5 of the Maintenance Manual. A justification response for underutilized equipment shall be submitted from the division, district or section by the end of March each year. Justifications will be required for each unit which fails to meet the target thresholds noted in Figure 700-5 of the Maintenance Manual on the following timetable:

Calendar Year	% of Target Utilization
2002	40%
2003	50%
2004	60%
2005	70%

This will establish the basis for the complement review as noted in subsection 715.1 of the Maintenance Manual. Divisions, districts and sections are encouraged to ensure that utilization is logged accurately on timesheets as required to ensure that complements are not reduced unnecessarily.

EQUIPMENT PROCUREMENT

The following categories of equipment are no longer eligible for replacement or new purchase until further notice:

Category	Class	Description
390	BX	Distributor > 1300 Gallons Truck
426	CF	Dozer, Heavy
506	AU	Milling Machine
811	ZI	Distributor > 5000 Liter (1300 Gallons)
818	CA	Laydown Machine, Self-Propelled
819	CH	Laydown Machine, Pull Type
823	AZ	Chip Spreader, Self-Propelled
860	BE	Conveyor (Belt) Screener Plant
902	DL	Excavators
905	DT	Trencher
916	ZI	Trailer, Semi Belly-Dump

The following categories of equipment are only eligible for replacement or new purchase upon approval of written justification explaining purpose and need, expected utilization, explanation why another category is unable to fulfill the need, and/or comparison of ownership costs versus rental rates or contracted work costs:

Category	Class	Description
207	ZX	Pickup 4 x 4, Small
208	XK	Pickup 4 x 4, Large
209	XL	Truck, 4 x 4, Utility
215	T2	Vans, 4 x 2, T2 Program
218	ZC	Suburbans 4 x 4
328	BC	De-Icer Truck
335	KA	Hot Patcher Truck
352	CC	Snow Plow V and Wing Truck
375	AL	Core Drill Truck
424	AQ	Dozer, Medium
610	PG	Pull Windrower
825	CN	Barge
835	CQ	Scabbler
844	ED	Diamond Drill
866	ZI	Road Side Mower, Sickle
867	ZI	Road Side Mower, Rotary
868	CB	Chipper, Brush
869	ZI	Road Side Mower, Slope
870	ZI	Road Side Mower, Flail
878	BQ	Roller, Pneumatic
879	BK	Roller, Steel Flat, Self-Propelled
884	ZI	Tow-Type Sander
889	ZI	Salt Spreader
932	GE	Skid Mt. Generator
972	BW	ATV (4 Wheeler or Motor Vehicle)

Additionally, the extended cab feature on large pickup trucks is no longer available for new purchases or replacements w/o written justification.

To clarify, the categories no longer eligible for replacement or purchase are units which Executive Management has directed that we phase out of our fleet.

The categories which require written justification and approval for replacement or purchase are either categories with historically low utilization, categories which are readily replaced by other categories of equipment, and categories no longer commercially available and/or categories which are readily available on the rental/contracted maintenance market. For example, 4x4 trucks are units which should be replaced with comparable non-4x4 units unless justified to be an essential feature for the work to be carried out in the assigned geographic work area.

DAVID R. JONES, P.E.
Maintenance Engineer

MAINTENANCE SECTION

MEMORANDUM NO. 6

DATE OF ISSUE: JANUARY 1999

SUBJECT: MECHANIC'S TOOL ALLOWANCE

As a condition of employment, certain shop employees are required to furnish their own hand tools and lockable tool storage cabinets, all in good repair. It shall be their responsibility to have in possession all hand tools, except those provided by the Department as indicated below, to accomplish all assigned work. It shall be the Shop Superintendent's responsibility to determine the adequacy of the tool complement for each job assignment.

The Department will furnish all special tools when needed, such as: pin presses; spanner wrenches; impact wrenches; power tools; pullers; drills; reamers; taps and dies; gauges, torches, and tips; box, open-end and socket wrenches over 1¼" or 32mm; pipe wrenches 24" and larger; all tools and sockets requiring ¾" drive and larger; and other specialized, nonstandard tools.

The Department will reimburse for lost, damaged, obsolete or deficient tools, up to a maximum of \$450/year, effective January 1, 1999. An employee must be a certified shop employee for a minimum of one year to be eligible for tool reimbursement. Shop employees eligible for the tool allowance are as follows: Shop Foreman; Mechanic; Mechanic General Repair; Welder/Machinist and Body/Fender Mechanic. No other shop employee classifications are eligible for this allowance.

It shall be the shop employee's responsibility, in order to be covered by the provision, to provide the department with an item-by-item tool inventory certified by the employee to be accurate. Inventories will be submitted prior to first claim for reimbursement.

Reimbursement for tools will be made through Individual Expense Account procedures.

Refer to Section 4.3.5 of the Financial Accounting Manual for additional instructions concerning claims, accounting, audit and documentation requirements under this provision.

DAVID R. JONES, P.E.
Maintenance Engineer